DOCUMENT RESUME

ED 343 723 PS 020 472

AUTHOR	Speidel, Gisela E., Ed.
TITLE	The Kamehameha Journal of Education. 1990-91.
INSTITUTION	Kamehameha Schools/Bernice Pauahi Bishop Estate, Honolulu, HI. Center for Development in Early Education.
PUB DATE	90
NOTE	417p.
PUB TYPE	Collected Works - Serials (022)
JOURNAL CIT	Kamehameha Journal of Education; v1 n1-3, Jan,May,Sep 1990 v2 n1-2 Mar,Sep 1991
EDRS PRICE	MF01/PC17 Plus Postage.
DESCRIPTORS	Cultural Awareness; Curriculum; *Early Childhood Education; Elementary Education; Family School Relationship; *Language Acquisition; Phonics; Preschool Education; *Preservice Teacher Education; *Reading Instruction; *Teaching Methods; Writing Instruction
IDENTIFIERS	Authentic Assessment; *Hawaii; *Preservice Educ for Teachers of Minorities HI

ABSTRACT

This document consists of the three 1990 issues and the two 1991 issues of a journal that publishes articles on the education of Hawaii's children. The journal covers such topics as teaching strategies, instructional settings, and cultural differences. Articles in the January 1990 issue consider: (1) reading and literacy in the Kamehameha Elementary Education Program; (2) phonics and word identification; (3) language development in the classroom; (4) ways to encourage voluntary reading; (5) methods for developing students' reading comprehension; and (6) ways to develop student writing in kindergarten. The May 1990 issue, which is dedicated to the prekindergarten educational program, discusses home visits; a traveling preschool; center-based preschools; children as storytellers; conversations during story reading; reading to younger children by older children; the relationship between home and school; and the child as a member of a culture. The September 1991 issue reports on the Preservice Education for Teachers of Minorities (PETOM) venture, an experimental program for teacher education. Articles examine: (1) PETOM's approach to cultural issues in education; (2) principles of teaching and learning; (3) art in the PETOM curriculum; (4) models for teaching science and mathematics; and (5) the perceptions of PETOM by its graduates. Topics of articles in the March 1991 issue include: (1) a framework for reading instruction; (2) the curriculum framework and classroom application of a whole literacy approach; (3) ways to encourage reading and writing; (4) word reading strategies in a whole literacy classroom; and (5) phonics instruction. The September 1991 issue contains four articles that comprise an overview of issues involved with the authentic assessment of students' learning, three articles on authentic assessment measures used in KEEP (the Kamehameha Elementary Education Program), and seven commentaries on the use of authentic assessment. (BC)

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THE KAMEHAMEHA JOURNAL OF EDUCATION

CENTER FOR DEVELOPMENT OF EARLY EDUCATION
KAMEHAMEHA SCHOOLS

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Volume 1 Number 1 January 1990

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The *Kamehameha Journal of Education* publishes articles on the education of Hawaii's children. This journal is for teachers, principals, curriculum developers, college and university faculty, superintendents, and those in political arenas; in short, it is for anyone concerned with educational matters. Journal issues center around themes such as educational program descriptions, teaching strategies, instructional settings, cultural and learning-style differences, and current educational topics, all dealing with ways Hawaii's children come to enjoy school and succeed in it.

The Kamehameha Journal of Education

Volume 1, January 1990

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Introducing The Kamehameha Journal of Education

Robert Springer, Director
Center for Development of Early Education

The Kamehameha Journal of Education wants to share knowledge and innovations and to stimulate thinking in the educational community about the education of Hawaii's children. Therefore, this journal is for the community and by the community—for teachers, principals, curriculum developers, college and university faculty, superintendents, and those in political arenas concerned with educational issues. In short, it is for those interested in the education of Hawaii's children.

The Journal's three annual issues will center around themes such as program descriptions, teaching strategies, instructional settings, theoretical issues, and research findings, all dealing with ways Hawaii's children come to enjoy and succeed in school. The age range with which the themes are concerned is broad, ranging from prospective mothers to preschool- and school-aged children, to preservice and inservice teachers. As we are a multicultural society, articles on the effects of cultural and learning-style differences on learning will be included.

This first issue is on the evolution of the Kamehameha Elementary Education Program (KEEP) for kindergarten through third grade. The first article describes the major changes in the curriculum. The other articles are on various strands of the curriculum, showing how instruction in those areas can be conducted and what future work may be needed.

We hope readers will find the Journal stimulating and welcome comments and discussion.

Meet Michael Chun!

Only a little over a year ago, Dr. Michael Chun became the tenth president of Kamehameha Schools. Sought out by the trustees as the president who will lead the Schools into the 21st century, Dr. Chun's ideas and visions of the many programs of the Schools and their role are of interest to the larger educational community of Hawaii. Despite Dr. Chun's short tenure at the Schools, he has formed clear ideas and was very open in sharing these with us.

Kamehameha Schools runs a cornucopia of educational programs, ranging from prenatal to continuing education. What changes do you foresee among these programs?

Yes, we have many different programs, and I have been looking at how they fit into the educational continuum with respect to their goals and objectives. We have programs for prospective mothers, for the parents and infants, for preschool children, for the 5- to 12-year-olds and 13- to 17-year-olds, and for adults who want to continue their education. So I see that we have taken positive steps to address the various educational needs of the Hawaiian community.

I see no need for retrenchment, but the reality is that we cannot be everything to everyone. We must be selective! We need to look at those areas where we can have our greatest impact in terms of the mission laid down by Princess Bernice Pauahi Bishop.

Where do you see these areas of greatest impact?

I see two areas. First, the secondary school we have on Kapalama Heights for a select group of young Hawaiians is essential to this mission.

This school is Kamehameha's flagship! Its purpose is to prepare young Hawaiian men and women to become leaders, not so much for the Hawaiian community, but for the larger community of Hawaii. We prepare our students for college or other further education so that they may be of service to mankind, the nation, and indeed the world.

I do not see the high school getting any bigger. We cannot enroll more students on campus. But it will get better. Ours is an excellent school now, but like other schools in the United States, we need to strengthen our science and technology programs.

The other area we need to address is the school achievement of Hawaiian children as a group. How can we do this? More schools for only Hawaiians doesn't make social sense. If we want Hawaiians to be a part of their larger community, it doesn't make sense to pull children from that community and send them to special schools. That would only isolate the Hawaiian people from their community.

Given the resources, I believe that we can make the biggest impact on most people by working in early education. I would like to see a state-wide preschool program that prepares the children for kindergarten. Right now we have the Prekindergarten Educational Program, or PREP, in seven locations. PREP consists of three sub-programs: the home visitor program, which delivers prenatal and parent-infant curricula and provides health education to prospective parents; the traveling preschools for 2- to 3-year-olds and their families; and finally, the regular, center-based preschools for the 4- to 5-year-olds. Much strength of these programs comes from the emphasis they all place on the parents and family. Even in the preschools lots of activities are designed to involve parents. The key is the reinforcement the parent gives in the home. The parent's attitude, awareness, those are powerful instruments.

These programs are currently funded jointly by federal grants and the Kamehameha Schools/ Bishop Estate. When the federal funds run dry I feel strongly that the Schools need to accept the responsibility for these preschools, and I will urge the trustees to do so.

How do you see the relationship between the Schools and the Department of Education (DOE)?

We need to look for different models of how to work most efficiently and effectively with the DOE. After all, most of the Hawaiian children are in the public schools.

A solid, good relationship has developed between the Schools and the DOE—partly this has come out of personal friendships of long standing. Partnering between these two educational institutions is essential and it is already happening with the Kamehameha Elementary Education Program, the preschools, Hawaiian Studies, Basic Skills, and other programs.

Kamehameha Schools is helping to fund a new program in the College of Education, the Preservice Education of Teachers of Minorities or PETOM program. What are your thoughts on PETOM?

The PETOM program has courses specially geared to prepare future teachers for working with children from multicultural backgrounds. The instructors come from the College of Education and the KEEP staff. At the moment, PETOM is a special program in which only a small number of College of Education students enroll. I just wonder, why aren't all College of Education students taking these courses? We are a multicultural state! But I think progress will come. They are talking about making PETOM a graduate program. The College of Education, the Kamehameha Schools, and the DOE are working together within the Hawaii School/University Partnership, which is a member of a national consortium of school-university partnerships. PETOM is one of the programs in this partnership.

You have had a colorful past with experiences in different fields. This is your first educational administrative post. How do you like it?

My dream was to become a college professor, and so I went back to earn my Ph.D. from the University of Kansas in 1970 in environmental health engineering on water quality and water pollution—an upcoming field at the time. I lived that dream for 10 years as an associate professor in the College of Engineering and in the School of Public Health at the University of Hawaii. I enjoyed the teaching, the research, and particularly the travels to consult or train engineers in such countries as Thailand, Indonesia, and Micronesia.

In 1981 I joined the City and County of Honolulu's Department of Public Works as its director and chief engineer. This position gave me the experience of working with a large organization made up of people doing many different kinds of jobs, a situation not unlike Kamehameha School's large and varied staff. Then the last four years before joining the Schools I was with Park Engineering, a Honolulu-based engineering consulting firm. I really liked all my jobs, but, had I known how satisfying working with young students would be, I would have switched over long before!

Working with the students and the staff has been rewarding. I enjoy meeting with students, teachers, and staff and often take a few minutes to wander around some part of the campus. Whenever I can, I have dinner with the students or watch them at their activities. And when I have a bad day, I go down to the elementary-school campus to visit the youngsters. They are so open, trusting, and affectionate. They make you feel special!

Gisela E. Speidel, Editor
Kristina Inn, Associate Editor

From Reading to Literacy: Changes to the KEEP Curriculum

KEEP has followed a process of research and development that weighs the knowledge and experience of both researchers and practitioners.

Kathryn H. Au

The Kamehameha Elementary Education Program (KEEP) was created to assist teachers in improving the reading and language arts achievement of Hawaiian children enrolled in Hawaii's public schools. Since its founding in 1971, KEEP has followed a process of research and development. This process, which weighs the knowledge and experience of both researchers and practitioners, leads to the periodic refinement and improvement of the KEEP curriculum.

During 1988-89, after a comprehensive review, the KEEP curriculum was extensively revised and updated. As in previous revisions, efforts were directed both at addressing practitioners' concerns and at incorporating current research. These efforts have resulted in a whole literacy curriculum. This article highlights the major changes that have taken place. The key changes are summarized in Figure 1.

Curriculum Content

Like almost all major reading curricula developed roughly between 1975 and 1985, the KEEP program originally focused on reading comprehension and word identification, and on the cognitive strategies or mental plans followed by effective readers. The current whole literacy

Changes to the KEEP Curriculum

Program Areas	Previous Program	Current Program
Curriculum Content	Reading, cognitive strategies	Literacy (reading/writing) cognitive + affective
Instructional Strategies	Comprehension through guided discussion, isolated skill lessons	Integrated instruction, skill lessons in context of literature
Materials	Basal selections	Authentic materials: literature and informational articles
Assessment	Criterion-referenced testing of sub-skills	Portfolio assessment of 6 aspects of literacy

Figure 1

program is much broader in scope. It emphasizes writing as well as reading, since both are of equal importance in children's literacy development,[1] and learning to write can have positive effects on learning to read.[2]

Formerly, the KEEP curriculum paid little attention to students' will or motivation to use their reading skills independently.[3] The current curriculum highlights the affective as well as cognitive dimensions of students' literacy development, including valuing of their own literacy.

The current program covers the following six aspects of literacy:

(1) ownership,
(2) reading comprehension,
(3) writing process,
(4) word identification,
(5) language and vocabulary knowledge, and
(6) voluntary reading.

The first aspect of literacy, *ownership*, is also the overarching goal of the current curriculum. Ownership has to do with students' valuing their own ability to read and write.[4] Students who have ownership of literacy have a positive attitude toward reading and writing and routinely use reading and writing in their everyday lives.

The next aspect of literacy is *reading comprehension*. In the current curriculum reading comprehension is seen to involve a dynamic interaction among the reader, the text, and the situation or social context in which reading takes place.[5] Similarly, use of the term *writing process* for the third aspect of literacy conveys that writing is seen as dynamic and nonlinear, including such activities as planning, drafting, revising, editing, and publishing.[6]

In the fourth aspect of literacy, *word identification*, the current curriculum builds on Clay's[7] notion that effective word identification requires the use of different solving strategies. That is, children must learn to take a problem solving approach, cross-checking their responses with information from several different cue systems. Useful strategies include decoding by analogy (see T. White, this issue).

Language and vocabulary knowledge, the fifth aspect of literacy, involves the ability to understand and use appropriate terms and structures in both spoken and printed English. It also includes the ability to learn the meanings of new words (see Speidel, this issue). The current program follows an approach to vocabulary consistent with the knowledge hypothesis,[8] the idea that vocabulary represents a person's knowledge of particular topics as opposed to dictionary-style definitions.

Voluntary reading is the final aspect of literacy included in the current program (see Kawakami, this issue). In voluntary reading students select the materials they wish to read, either for information or for pleasure.[9] Ideally, students also choose the times when they will read. While the terms recreational or independent reading refer to similar concepts, voluntary reading is perhaps best for capturing the idea of students being motivated to read on their own.

Voluntary reading and ownership typically are not treated as curriculum areas or assessed in any way. However, the current KEEP curriculum gives formal recognition to both, in order to remind teachers of the importance of the affective dimension of literacy.

Instructional Strategies

In the teaching of reading comprehension, there is considerable continuity in the instructional strategies recommended in the original and current KEEP curricula. The original curriculum differed from the vast majority of primary grades reading programs developed during the 1970s in emphasizing the teaching of comprehension. Other beginning reading programs emphasized the teaching of word identification and downplayed the teaching of comprehension before the third grade. Interactive guided discussion lessons following the experience-text-relationship method remain at the heart of the KEEP curriculum.[10] The refinement of comprehension teaching strategies continues to be an area of KEEP research and development (see S. White, this issue).[11]

Changes in instructional strategies come in the area of word identification. Specifically, the current program seeks a better integration of skill instruction with comprehension-oriented guided discussion lessons. First, skill lessons grow out of the reading of literature. For example, the teacher might copy a sentence from the selection on the chalkboard and guide students through the process of decoding a multisyllable word contained in the sentence. Second, students are encouraged to apply new skills during their ongoing reading of text. In short, the new approach focuses on making skill instruction more meaningful to students and on fostering the application of skills during the reading of literature.

Reading Materials

When the KEEP curriculum was originally developed in the 1970s, anthologies from basal reading programs, such as the Ginn 360, were the main materials used for reading instruction in many public schools in Hawaii as well as all across the United States. The typical selections in these anthologies had little literary merit and were often written or edited specifically for the purpose of teaching children to read, not to inform or to entertain.

Beginning in the mid-1980's there was a nationwide trend toward literature-based instruction and centering children's reading experiences around authentic works of literature. In literature-based instruction, lessons focus on the reading and discussion of novels, picture storybooks, and other tradebooks. The current KEEP curriculum is consistent with this trend. In keeping with a whole literacy approach, the idea is to teach children to read with high quality texts well worth reading in their own right. In other words, children are taught to read with interesting and well-written texts, exactly like those they might benefit from reading independently.

Assessment

Students' learning was formerly assessed through criterion-referenced tests. These tests were consistent with the principles of mastery learning.[12] Complex processes such as reading were analyzed into a series of subskills, and students were instructed and then tested on each subskill.

Beginning in the early 1980's, educators across the nation gradually became aware of problems with the criterion-referenced testing of subskills. First, critics pointed out that such tests were not based on current views of the reading process.[13] Comprehension, for example, cannot be analyzed into subskills,[14] so tests of subskills were poor indicators of students' comprehension ability. Second, the tests did not assess children's comprehension of the types of materials they actually read in classrooms.[15] This meant that results obtained on criterion-referenced tests generally did not provide teachers with information useful in guiding classroom instruction.

Assessment procedures in the current KEEP curriculum are designed to provide teachers with information to improve instruction.[16] A portfolio assessment system[17] was developed with tasks designed to be as close to ongoing classroom activities as possible. New theories of learning, instruction, and assessment point to the importance of this close connection between assessment and the situations in which teaching and learning normally take place.[18] This approach to assessment is often called situated assessment or authentic assessment.[19]

Portfolio assessment tasks in the current program grow naturally out of students' everyday instructional experiences. Because the six aspects of literacy are so interrelated, some assessment tasks can be used to check on growth in two or more aspects of literacy. There are five major assessment tasks and procedures.

First, students answer questions intended to assess their ownership of literacy, or habits and attitudes towards reading and writing. Second, in a response-to-literature task, they write about the stories they have read. This task assesses both reading comprehension and language and vocabulary knowledge. Third, students choose samples of their writing to be placed in their portfolios. Students' growth in writing is assessed by analyzing the writing samples on a variety of dimensions, ranging from the organization of ideas to consistent use of punctuation (see also Lindberg, this issue). Fourth, students' ability to apply word identification skills during reading is assessed by taking a "running record"[20]: The child reads orally and the observer notes errors, self-corrections, and words read accurately. Finally, students keep logs of their voluntary reading, recording the date, authors and titles, and preferences for some books over others. These five measures, with adjustments appropriate to children's grade and reading levels, are used to trace literacy development from kindergarten through the end of third grade.

The public school system in Hawaii has a tradition of heavy reliance on standardized tests for the purpose of accountability. Because of this situation, KEEP's portfolio assessment system is anchored to grade level benchmarks reflecting expectations for the hypothetical average student. The benchmarks were based on goals for primary students' literacy development outlined in (1) the current language arts curriculum guide prepared by the state department of education, (2) a widely used standardized achievement test, and (3) the scope and sequence charts of several recently published basal reading/language arts programs.

Cultural Compatibility

The four areas discussed above show the major changes in the recent revision of KEEP's curriculum. The importance given to cultural compatibility, however, remains unchanged. Culturally compatible school programs are those which allow children to achieve academic goals through means consistent with the values and standards for behavior of the home culture.[21] For example, many Hawaiian families attach great value to the well-being of the extended family or *'ohana.* The ability to work with others for the good of the family is judged to be more important than a person's solo achievements. In contrast, schools typically place a greater value on individual achievement.

Three specific aspects of cultural compatibility have a prominent place in the KEEP program. The first is independent small group activities which provide opportunities for cooperative learning or peer teaching/learning interactions. Such interactions are consistent with the social organization seen in many Hawaiian homes where children carry out joint responsibilities, including childcare, without the need of direct adult supervision.[22]

The program also relies on a positive style of classroom management. Teachers provide students with clear goals and expectations, then reinforce these goals and expectations with consistent feedback. They use praise and smiles to encourage students' participation and commitment to literacy activities and firm desists when students misbehave. This style of management, referred to as "a smile with teeth",[23] serves two important functions. It makes being in school a more pleasant experience. Especially for students who may not see the benefit of school for their lives, teachers need to create a warm and supportive classroom atmosphere, so that such students will want to be in school and to become members of the classroom literacy community.[24] It also communicates to students that the teacher means business, that the goals and expectations given are to be taken seriously.

A third culturally compatible feature is the teacher's use of *talk story* during discussions.[25] Talk story, a common Hawaiian speech event, is characterized by a cooperative style of speaking. Typically, speakers present a narrative by speaking in rhythmic alternation. During reading lessons in KEEP classrooms, teachers allow students to cooperate with one another in explaining points and presenting responses to questions. The use of talk story-like participation structures is related to higher rates of attentiveness and to higher quality discussion of the text being read.

Conclusion

The KEEP curriculum was recently redesigned to reflect a whole literacy approach. It has broadened in scope, encompassing writing and ownership of literacy; lessons on word identification are integrated with the teaching of literature; works of children's literature are the basis for reading instruction; and assessment is based on a portfolio system. The emphasis on culturally compatible classroom practices and on interactive guided discussion lessons, focused on reading comprehension, continues. The six-strand whole literacy curriculum serves as the framework for future research and development on the KEEP program.

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Phonics and Word Identification in a Literature-Based Program

Students who control and apply word identification strategies make rapid progress as independent learners.

Thomas G. White

"Skills-oriented" basal reading programs are drawing heavy criticism of late.[1] But other reading educators are worried, especially about minority students.[2] They ask, with some justification, whether "whole language" teachers are abandoning effective components of traditional basal skill instruction, such as phonics.[3]

Thus, at present there is a pervasive controversy, captured in the phrase "whole language vs. skills," where skills usually refers to phonics and/or word identification. Yet amidst the controversy, almost everyone seems to be saying that children must be provided with frequent opportunities to read high-quality literature, and that so-called "skills" are best taught in meaningful contexts.

The purpose of this article is to outline and explain an approach to phonics and word identification that is currently being tried by teachers in the Kamehameha Elementary Education Program (KEEP). The approach may interest not only KEEP teachers but any teacher who wishes to incorporate skill instruction in her literature-based reading instruction. Essentially, the focus is on strategies for word identification rather than on phonic knowledge per se. *Phonic knowledge* is knowledge of particular spelling-sound relations, such as the relation between the letter *b* and the sound it makes, or the relation between the letter group *-at* and the sounds it makes. A *word identification strategy* involves application and integration of different kinds of phonic knowledge, or the integration of phonic knowledge and knowledge of language (meaning cues).

The Trouble with Most Phonics Instruction

The whole language-skills controversy has highlighted the negative aspects of basal phonics instruction. Specifically, proponents of whole language have raised questions about (a) "isolated skill" lessons, (b) rigid sequences of instruction that are out of step with students' needs, (c) "fragmentation," or teaching unintegrated bits of phonic knowledge, and (d) the relative importance of graphic (letter) and meaning cues in word identification. Consider, for example, this lesson:

> The teacher, following her basal manual, writes *not* on the board, underlines the *o*, and pronounces the word. Then she tells students that *n* and *t* are consonants, whereas *o* is a vowel. She reminds students that a vowel letter can stand for different sounds; however, the *o* in *not* will make the short sound, she says, "because it's the only vowel in the word." Finally, she writes *hop*, *pot*, and *fox* on the board, and models her rule-oriented method of figuring them out.

There are several difficulties here. First of all, the lesson is separated ("isolated") from the reading of connected text. This reduces the chances of transfer, or students' application of the phonic knowledge in actual reading.[4] Second, students may not be motivated to learn short *o*—if indeed they should learn that concept at all. There is, in fact, too much talk about abstract linguistic concepts like "short vowel" and not enough action on the child's part.[5] Finally, the underlying model of word identification is letter-by-letter decoding and blending (i.e., sounding each letter and combining the sounds). Children probably do not read words in this manner; rather, they look for multiletter chunks in words and use both meaning and letter cues as they read connected text.[6]

It seems that many things can go wrong with phonics instruction, and this has led some "pure" whole language theorists like Goodman to call for its end.[7] A radical solution like "no phonics" may tempt us, but only for a moment. As Feitelson[8] points out, Goodman and other leaders of the whole language movement "avoid the question of what exactly it is that teachers should be doing in the initial stages of children's learning." Should all attempts to teach phonics in an explicit, orderly way be condemned? Is there a better way of teaching the alphabetic code that does not, as Goodman says, "fragment" the process? Finally, how can a teacher check to see if useful word identification strategies are present in her students? And how can these strategies be systematically taught? Some possible answers to these questions follow.

Useful Strategies for Word Identification

When good readers come to a word they have never seen before, they pause to look at all its letters in a left-to-right sequence. But as they look at the letters, they are not thinking of a sound for each letter because good readers read in chunks, or groups of letters.[9] The important question for reading instruction is this: What are the functional letter groups? Recent experiments show that both children and adults tend to rely on two units when reading one-syllable words (or syllables in words with more than one syllable): (a) the initial consonant or consonant cluster, and (b) what I will refer to as the *spelling pattern*, or vowel plus final consonant(s).[10] In the word *black*, for instance, the initial consonant cluster is *bl-* and the spelling pattern is *-ack*.

Following inspection of the letters of an unfamiliar word and a mental search for words with the same spelling pattern, good readers try a pronunciation. Then they check to see if their pronunciation makes sense, rereading the sentence if necessary. Imagine a second-grade girl reading the sentence, "Let me do it, he *pleaded*." She pauses at the last word, mispronounces the first syllable as if it rhymed with *head*, then realizes it "doesn't make sense." She looks at the letters again, thinks of the word *bead*, and tries another pronunciation. This time it is right, and "pleaded" does make sense to her.

The above example illustrates the two word identification strategies that KEEP teachers are focusing on, analogy decoding and cross checking. In *analogy decoding*, the child pronounces an unfamiliar word by thinking of a known word with the same spelling pattern. In *cross checking*, the child uses syntactic (sentence structure) cues, semantic (word meaning) cues, or graphic (letter) cues to check whether a word has been accurately read.

Note how cross checking and analogy decoding both fit the definition of a word identification strategy that was given earlier. In the *pleaded* example (above), the girl integrated letter and sound cues (phonic knowledge) with meaning cues (knowledge of language) to self-correct and check her own performance. She also integrated several kinds of phonic knowledge: knowledge of the sounds associated with the initial letters *pl-*, the spelling pattern *-ead*, and the inflectional ending *-ed*.

Students in the primary grades are confronted with many visually unfamiliar words, and these less frequently occurring words carry much of the meaning in text.[11] Therefore, the utility of strategies for word identification, such as analogy decoding and cross checking, should be readily apparent. Students who control and apply these strategies make rapid progress as independent learners. In contrast, students who lack the strategies must rely on others to teach them word pronunciations, one word at a time.

Analogy decoding and cross checking are complementary strategies for word identification. Both are necessary—absolutely so. Many words in printed English have irregular pronunciations, and these words cannot be read by analogy. For example, if *have* were read "by analogy" to *save* or *wave*, an error in pronunciation would result. Also, some spelling patterns, such as *-ead* and *-ow* have more than one pronunciation. So analogy decoding is insufficient by itself.

Students cannot rely on cross checking as their sole strategy for word identification either. Common sense tells us that the student is in trouble if too many word pronunciations are wrong and have to be checked! In fact, the research evidence is that poor readers are not worse at using context or meaning cues. Poor readers' problem is that they lack phonic knowledge, the ability to apply it, or both.[12]

Systematic Assessment and Instruction

Cross checking

In order to assess use of the cross-checking strategy, a teacher can take "running records" of her students' oral reading.[13] Each student reads a 100-word sample of text at his/her instructional reading level, and various types of pronunciation errors are recorded as well as self-corrections. Errors and self-corrections are analyzed to determine which cue systems—syntactic, semantic, and/or graphic—a child is using. Some children rely too heavily on one type of cue, and instructional interventions can be planned accordingly.

If a child fails to self-correct meaning-altering errors, use of meaning cues needs to be deliberately taught in the following manner.[14] The child is asked to read fairly easy material aloud (after an initial silent reading). When a meaning-changing error is made, the teacher waits until the child finishes the sentence or paragraph. Then she says something like: "You read 'The runner *stubbled* and fell'. Does that make sense?"

Other children make heavy use of meaning cues, but they tend to ignore graphic cues and make many errors as a result. For instance, a child might misread the last word of "I like to read in my bed," saying "room" instead. In this case, to direct the child's attention to graphic cues, the teacher might say: "You read 'I like to read in my room.' Does that look right?"

Prerequisites for analogy decoding

Teachers can track development of the analogy decoding strategy from kindergarten through third grade with a series of tests that are included in KEEP's new curriculum guide. The first several tests allow a teacher to check children's progress on the foundations, or prerequisites for analogy decoding: letter identification, writing initial consonants (when given a word), knowledge of rhyme, and initial sound manipulation (e.g., the child is asked to say *seat* without the /s/ sound).

Let me briefly explain why the above prerequisites are important and how a teacher can facilitate their development. First, letter names and sounds are obviously basic. Lessons built on children's names are an enjoyable way to teach letter identification in kindergarten.[15]

Second, consider rhyme. In applying the analogy strategy, children look for spelling patterns at the ends of words and use these patterns to make predictions about ending sounds. Because rhyming words are words with the same ending sounds, analogy decoding may grow naturally from an earlier appreciation of rhyme. This is one of the reasons that KEEP kindergarten and first grade teachers favor the use of predictable big books for reading instruction. Here, for instance, are some lines from *The Hungry Thing*:[16]

"Just look!"
Said the cook.
  "Let's all try!"
  Was the cry.

Children's understanding and knowledge of rhyme is likely to increase if they hear their teacher reading the above lines, or if they make up their own rhymes! Later, when some initial consonant sounds are known, the teacher could use an oral cloze procedure to induce what I call "prompted" or "assisted" analogy decoding: She simply pauses after the word *the* in the second line of each couplet.

Finally, analogy decoding requires an ability to hear and manipulate the initial sound(s) in words. For example, to read *cook* by analogy to *look*, the child must first separate the initial sound of *look*, /l/, from the sounds associated with the spelling pattern *-ook*. One of the best ways to develop children's ability to hear the initial sounds in words is to encourage them to write using invented spelling.[17]

Analogy decoding: Testing and teaching the strategy and developing phonic knowledge

The next several tests in the series (in KEEP's curriculum guide) assess analogy decoding of regular but relatively infrequent one-syllable words (e.g., *tide*, *shook*, and *stall*). The tests indicate not only whether students can decode by analogy but also whether they are acquiring phonic knowledge, including the sounds of 19 initial consonants, 21 initial digraphs and blends, 35 common spelling patterns, and 85 less common spelling patterns.

Some KEEP teachers are now using these tests to adapt their literature-based teaching to the needs of the students in their class. To illustrate, one of the tests contains words that are composed of an initial consonant and a common spelling pattern (e.g., *-ay*, *-ot*). If many students have not passed this test, the teacher selects a story containing such words as *hot* and *day*. Alternatively, the teacher simply looks, in whatever students are reading, for words belonging to the category of interest (initial consonant + common spelling pattern). When students have trouble reading *hot*, for instance, the teacher says, "It rhymes with 'not'." She writes *not* beneath *hot* on the board, underlines the *-ot*, and asks students for more words that rhyme with *hot* and *not*, such as *got*. The last step is the critical one that teaches application of the analogy strategy: A relatively uncommon word like *cot* is added, and the teacher says, "If n-o-t spells 'not,' what does c-o-t spell?"

When students have passed the test that covers initial consonants and common spelling patterns, the teacher moves to the next level. Here she concentrates on words with initial digraphs and blends. At the same time, she continues to work on common spelling patterns, and continues to provide opportunities to practice the analogy strategy. A developmental progression like this, from initial consonants to digraphs and blends, is not the same thing as a basal-like, inflexible sequence of subskills. The teacher—not the basal publisher—decides when to teach specific kinds of phonic knowledge (e.g., the digraph *th-*). Her aim, moreover, is students' use of specific phonic knowledge in novel combination with other phonic knowledge.

Summary and Conclusion

I have described an approach to phonics and word identification that emphasizes two strategies for word identification, cross checking and analogy decoding. In cross checking, the child uses meaning or graphic cues to determine if a word has been accurately read, thus integrating phonic knowledge and knowledge of language. In analogy decoding, the child reads an unfamiliar word by integrating two kinds of phonic knowledge, the sounds associated with (a) the initial consonant, digraph, or blend, and (b) the spelling pattern of the word. When these strategies and the phonic knowledge they integrate are taught in the meaningful context of good literature, "whole language" concerns about phonics and word identification seem to vanish.

Footnotes

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Language Development in the Classroom: The Natural Way

Any activity in which students and teacher talk together and exchange ideas can be used to develop language.

Gisela E. Speidel

"They just don't express themselves verbally! They're shy and don't want to talk! They don't have the vocabulary!" This is how teachers in Hawaii often describe their students who are not achieving at their potential. The teachers know that the "language problem" is largely a classroom problem. On the playground and at home the children are talkative and their language appropriate. But the talk in school is about different kinds of things and requires more explicitness. How can we get these students to be eager talkers in the classroom? How can we motivate them to use more precise language? Research on child language,[1] second language acquisition,[2] and language learning in our KEEP classrooms[3] gives us suggestions about how to develop language in the classroom.

Children Learn Language Naturally During Conversations

Language development does not simply mean learning hollow words; it means developing the meanings attached to all those words. And it means coming to know in which contexts those words can be used appropriately. Children easily learn to repeat rotely the abstract words in the *Pledge of Allegiance*, but such rote learning will not help them learn the deep meanings of those words. To learn meanings, a child must hear the words while experiencing them in some way. A child learns what *milk* is by drinking it, looking at it, and feeling it in her stomach. She learns to call this *milk* by hearing the word used when talking about milk. Similarly, an older child learns about *perimeter* by measuring different perimeters and talking about these measurements as perimeters. "Conversation is the most significant environment for language learning" according to Dore, a well-known researcher of child language.[4] Children learn to talk when they talk about things that are important to them, conversing with people who show interest, listen to what they say, and help them to say things. They learn language when they *try to make sense out of the words* the adult uses in talking with them.

At KEEP we found that a *natural context* approach to language development brought about greater change in the children's language than the drill and pattern practice from the popular *Peabody Language Development Kits.*[5] The natural context approach resembles the way in which toddlers learn language. In it language is the *medium* for learning, while in the Peabody exercises language is the *goal* or *object* of learning.

Oral Language Development in School

Any activity in which students and teacher talk together and exchange ideas can be used to bring about language learning. Describing an art project, discussing an experiment, working on a social studies problem, retelling a story, or conferencing during process writing are just as suitable for language development as are discussions to help students comprehend their readings (see Au and S. White, this issue). The important thing is that the teacher uses the new words in such a way that they can be understood by the students and that the students have an opportunity to use those words. Students also learn language from one another. Activities in which they talk and problem solve with each other are another possibility.

To find activities in which students want to share their ideas and want to communicate, the teacher needs to observe when her students like to talk and what kinds of questions and interactions will bring about a lot of talk. For instance, we have noticed that many children love to talk if there is an opportunity for them to talk-story, if they can chime in and add their own thoughts to an ongoing discussion rather than talking only when called on.[5] Many Hawaiian children love to challenge each others' ideas.

Strategies for Language Development

Everytime we talk *with* children about things meaningful to them, we are in a sense modeling language and giving them information on how language works. But language learning opportunities can be increased and improved in quality if a teacher is aware of the strategies described below.

Use of specific, descriptive words

Using specific, more descriptive words when talking with the students will give them more informative language input. It is better to say, "The broom goes in the box beside the desk" than "It goes over there"; or "The boy galloped after his dog" instead of "The boy went after his dog." When developing concepts, one might say, "This vehicle is a car" instead of "This is a car"; or "The sandpaper has a rough texture" for "This is rough."

Use of concrete examples and demonstrations

To help students grasp the meaning of unfamiliar words, concrete examples or demonstrations are helpful. For example, to teach serial order and the ordinal numbers, *first*, *second*, *third*, etc., a teacher can line up a row of objects with a clearly defined front, such as toy cars. While pointing to each, she can label them first, second, third, last. Then, because it is not a particular car but the car's position that determines whether it is first, second, etc., the cars need to be rearranged. Turning the cars around so that they are facing the opposite direction, she can ask, "Which one is now *first*? Which one is now *last*?" This helps to make sure that the children focus on the position rather than on the objects.

Similarly, if a teacher were not sure whether the children understood the meaning of *around*, she could walk around a child, saying, "Look I'm walking around Mary." Then she might pass another child, saying, "I didn't walk around John. I walked straight past him." Use of the new word whenever appropriate and whenever the students can figure out its meaning from the context ("Come let's sit *around* the table," or "Put the chairs *around* the table.") will help the students get a better grasp of the word.

Labeling activities as they occur

Many classroom activities are gold mines for language development if the actions are labeled and the students have an opportunity to talk or write about them. For example, if students do a science project on *buoyancy*, they can be given the task to find out which items will sink and which will float. How could they find out? By *experimenting*? What *procedure* or what steps will they go through in their *experiment*? What will they *observe* during their experiment? What do they find; what are the *results*? What can they *conclude* from their experiment? By using the word *experiment* frequently while doing it, they will acquire a much fuller meaning for the term than if they look up the word in the dictionary. Moreover, by labeling all the other activities of an experiment while doing them and reporting on them, they will learn such meanings as *buoyancy*, *observe*, *conclude*, *experiment*, *procedures*, *results*, and so on.

The following is another example of labeling an activity. A group of first graders learned the concept of analogy in an activity involving teeth and toothpaste and body and soap. After the students described what soap and toothbrush do, the teacher asked, "So what do these two things do?" A child responded, "That two things . . . clean. It-, those two things clean you." The discussion continued until the students came up with, "Toothpaste is to your teeth as soap is to your body." The teacher then said, "So this is how it works, and we call this an *analogy*." After working on a further analogy between a toothbrush and a toothbrush holder and a thermometer and its case, the students decided, "The holder goes to the toothbrush as the cover goes to thermometer." The teacher said, "You gave me an analogy." By labeling what they had just done, the students got a first-hand experience with *analogy*. *In this way language development and concept development go hand in hand. As concepts develop so can the language develop that goes to express those concepts.*

Direct vocabulary instruction

There is a debate among educators on the usefulness of explicitly teaching series of word definitions.[7] The argument against direct instruction is that it is slow and takes up much instructional time that could be used for other kinds of learning.[8] Moreover, such instruction can result in awkward and strange uses of words, such as "I feel placid" or "He stimulated the dog to run away."

A "fertile" vocabulary instruction[9] that includes reference to students' background knowledge and use of the words in context avoids some of these pitfalls. With older students such instruction could develop an awareness and appreciation of the richness and precision of our language. If used together with motivational activities that will be described below, a fertile vocabulary instruction—with rich discussions about words—could bring children to enjoy listening for new words and to enjoy using them. Nevertheless, most words are learned incidentally by often hearing and reading them in many meaningful contexts.

A teacher can expand the incidental learning of words and word meanings by deciding in her lesson plans what words and what concepts could be meaningfully taught in the context of the lesson.

Using known words and background experiences to describe an unknown word

During the flow of conversation, a teacher can often quite quickly help children understand words and develop their language by paraphrasing or adding a few words to explain a new word. For example, to explain *temperature* the teacher might say, "When your temperature goes up that means your body gets hot." Or she could introduce the word *blunt* by saying, "This knife is blunt; it doesn't cut well." This strategy is particularly useful if the child already has the concept and only needs a label for it. Sometimes merely emphasizing the way the word is used in a sentence can help to understand it. For instance, students were reading in a Halloween story about boys stealing some candy. The story goes on, "Take the *loot*!" The teacher asked what *loot* meant and one child said, "Afraid!" When the teacher repeated the sentence emphasizing *take*, the students caught on and called out, "*Candy*!" The teacher expanded this by saying, "Yes, the candy they stole!"

Questioning

Questioning for comprehension is described in Sheida White's article (this issue). It also has several roles

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in language development. Questions prompt children to talk, and having children talk is very important for language development. To stimulate talk, open-ended questions rather than yes/no questions should be asked, and the students must be given time to answer. If "What does a dentist do?" is immediately followed by "Does he fix teeth?" a "yes" or "no" will be the likely answer. Therefore, it is better to give the students some time to think. If they do not answer after a pause, an open-ended clue, such as "What kinds of things does a dentist do to your teeth?" might get an answer like "He fixes holes in my teeth."

Questions can also be used to help children speak more clearly, precisely, and elaborately, as in the following exchange between a teacher (T) and her first graders:

> T: The dentist does something else besides capping.
> Sean: Fixing.
> T: How does he fix teeth?
> Sean: With tools.
> T: With tools, he does, you're right.

Or, working on a math word problem, a teacher helped a student to clarify his thinking in the following way:

> T: What do you have to do?
> Rod: Add.
> Teacher: Add what?
> Rod: The hot dog and the coke.
> T: Very good, the cost of the hot dog and the coke.

Finally, students learn to use language for problem solving through guided questioning, the extensive questioning in which students' answers are a part of the solution to the problem. In the exchange below, a third-grade teacher helped her students solve a math word problem by asking questions to guide them through the various steps.

> T: Think about the information that is already there.
> Wade: The stuffs she bought.
> T: What were the stuffs she bought?
> Wade: Hamburgers.
> T: How many?
> Children: Five!
> T: Ok, any other information? Who bought the five hamburgers?
> Wade: Chris?
> T: Any more information we need?
> Rod: Her friend bought two.

And so the questioning continued until the children had solved the problem. Such questioning not only models for students problem solving, but also teaches them how to *use language* for problem solving.

Praise and reward

Praising and rewarding children for using precise or colorful words or for using elegant sentence constructions may motivate them to attend to the words they hear and to use those words and structures. Explicitly rewarding students with points for discovering a new word, such as Beck's Word Wizard,[10] can turn children into enthusiastic word learners.

Responding and Extending a Child's Message

The above activities and strategies can be preplanned and arranged by the teacher. However, throughout the day there are many unplanned opportunities for language development. These opportunities come about when a teacher responds to a child's message. When extending, elaborating, rephrasing, recasting, a teacher can give the students a lot of information about vocabulary and grammar and can model for them how to express their thoughts more clearly and more elaborately.

In the following discussion about cooking utensils, the teacher took advantage of the discussion to elaborate upon the students' language and model standard English for them.

T: Sometimes we need to use special kinds of cooking utensils to help us make whatever we're gonna make. One of the things we use is this. (The teacher holds up two different types of wooden mixing spoons.)

Leo: Wooden spoons.

T: That's right, these are wooden mixing spoons. Can you tell me something about these spoons?

Keola: Can mix with them.

T: Yes, you can mix ingredients with them. What else?

Alika: One is small and one is big.

T: That's right. One spoon is smaller than the other one.

(The discussion goes on for a while and then the teacher takes out a ladle.)

T: I bet you know what this is, too.

Kekoa: It's one bowl.

Ted: A pickup spoon.

T: Do you think it's a pickup spoon? This is called a ladle. Let me write ladle on the board. Now what is a ladle for?

In talking with the students, the teacher took their one- or two- word suggestions and elaborated them. For instance, she elaborated Leo's "wooden spoon" into "wooden mixing spoon"; and to Keola's "mix with them" she responded, "you can mix ingredients with them." She also rephrased some of their answers. Alika's "one is small and one is big" became "one is smaller than the other one and one is bigger." In this way, she modeled the comparative form. When she responded to Ted's "pickup spoon," she gave him a label for his concept.

Conclusion

There are many things we still need to study in order to make language learning in the classroom more effective. The classroom consists of a large group of children in which dyadic interactions with the teacher cannot be as frequent as between mother and child. The students do not always attend to the input given by the teacher. How can we encourage students to listen and attend to the language used by the teacher and others so that they will take ownership of that language?

In the meantime, however, students need instruction in the content areas; they need to gain much knowledge of the world. The strategies described above can be used to teach subject matter while at the same time developing the students' language.

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Encouraging Voluntary Reading

Research on voluntary reading shows that ten minutes of voluntary reading of self-selected materials can increase reading achievement.

Alice J. Kawakami

"The case can be made that reading books is a cause, not merely a reflection, of reading proficiency. Although this case falls short of being conclusive, it is as strong as the case for any other practice in the field of reading, in and out of school," claims a prominent team of researchers.[1] It should hardly surprise us that by reading, children become better readers.

The recognition of reading as an activity valuable in its own right has crystallized around the term *voluntary reading*. Voluntary reading, recreational reading, and independent reading are often used interchangeably and refer to reading that is motivated by some degree of choice on the part of the reader. In voluntary reading it is the reader, not the teacher, who decides what to read, when to read, or how long to read.

There are many benefits of voluntary reading. Studies have suggested that an additional ten minutes of voluntary reading daily is related to gains in reading achievement and vocabulary knowledge.[2,3] In addition, it increases students' knowledge about literature, develops positive attitudes toward books and literacy, and increases the inclination to participate in a community of readers which thrives on lifelong learning through reading. Although some of these benefits are not measurable by standardized tests, they are valuable and extend language arts learning beyond the school years.

While many reading programs focus on developing students' reading skill, the need to develop students' desire to read is equally important. As students develop greater proficiency in reading, they should be encouraged to use these skills for their own purposes. However, simply telling children to read on their own often is not enough. Teachers need to shape and develop the love for reading. They need to provide activities and mechanisms to encourage students to read for pleasure, to gain information, and to share their feelings and reactions to books they have read. The teacher's acceptance of this responsibility of helping students to read for their own purposes in addition to reading for classroom assignments can make a critical difference toward developing positive habits and attitudes toward voluntary reading and the use of reading as a lifelong tool.

What Teachers Can Do to Encourage Voluntary Reading

A number of articles, research studies, and observations in our KEEP classes suggest that certain classroom activities may be more important than others in creating and maintaining classroom environments which encourage children to read voluntarily.[4] Some classroom features and activities which encourage voluntary reading are:

1. ready access to books through classroom libraries and book boxes;
2. opportunities to read through *sustained silent reading* (SSR) and allowing students to read anywhere; and
3. development of a sense of community among readers through story read-alouds, book talks, and the Books and Beyond program.

These will be described below.

Ready access to books

If students are to become voluntary readers, they must have many books and a wide variety of reading materials available to them at all times. This can be accomplished successfully through such features as classroom libraries and book boxes.

Classroom library. The classroom library provides students with easy access to a collection of books in the immediate environment. It promotes positive habits and attitudes toward literacy by giving students a chance to browse, read, and become familiar with books that they are interested in, without having to leave their classroom.

Students should find a wide variety of materials to read for pleasure and for information in the library. It should contain tradebooks, magazines, and student-authored books covering a wide range of topics and reading levels. Many book lists are available from school and public librarians and numerous other sources. By rotating books between classrooms periodically, students can be exposed to a larger number of books over the

course of the school year. In order to develop interest in the books, the teacher or other students can do short book talks or presentations "advertising" them. (This activity will be described further in the section on developing a sense of community among readers.)

In order to encourage students to use their time in the classroom library most productively, the teacher needs to establish standards of acceptable behavior such as browsing through books, reading alone, or sharing a book quietly with a friend. Behaviors such as finishing assignments, drawing, or doing flashcard drills are not appropriate in the library.

Book boxes. Additional books for classroom use can sometimes be obtained through projects sponsored by agencies in the community. For instance, the Book Box Project was begun as a cooperative venture of KEEP and Alu Like's Native Hawaiian Library Project (NHLP). Collections of paperback books were sent to second and third grade classes at three KEEP field sites to provide more books for students to read. At these sites, teachers had been interested in promoting voluntary reading but their efforts were limited by the small collections of books available. The book boxes, containing 30 to 40 books, remained in each classroom for a period of four to six weeks. Teachers placed them in a variety of independent work centers and in the classroom library. The books were used for voluntary reading, book reports, sustained silent reading, and for reading aloud to the class. Students in these classes, in fact, chose to read books when they had finished their assigned tasks instead of drawing, talking, or day-dreaming. The book boxes were so well liked that all of the participating sites wanted the project to continue the following year.

A welcome response to provide students with increased access to books came from the Trustees of the Bishop Estate. A request for funds to stock classroom libraries and to let students borrow books to read at home resulted in a $50,000 gift to purchase books for KEEP classes in public schools.

Opportunities to read

If students are to become voluntary readers, they must have many opportunities to read materials of their choice. Sustained silent reading and allowing students to read books of their choice throughout the school day in their spare time are two classroom interventions that help to accomplish this.

Sustained Silent Reading period. Sustained Silent Reading (SSR) is an activity which gives all students an opportunity to read materials of their choice for an extended period of time. SSR should be scheduled for a minimum of 60 minutes each week. Book selection should be completed before the reading time is begun. At the early grades selection of books may need to be guided by the teacher. The students should be able to sit and read for about ten minutes without talking or leaving their seats. Early in the year, the teacher may need to shape behaviors and monitor students. However, as the class becomes accustomed to SSR, the teacher should also use the time to read books of her choice.

Teachers can motivate students to enjoy their reading by discussing the importance of reading for pleasure, sharing reactions to good books, and recognizing students' preferences for different kinds of books. Perhaps the most powerful influence is the teacher reading during SSR while the students read. This demonstrates that voluntary reading is as important to the teacher as it is to the students.

Students read anywhere and anytime. If students are allowed to carry favorite books with them throughout the day and are encouraged to use spare moments to read, their opportunities to read voluntarily are increased. Observations show that under such conditions, students actually take advantage of the opportunities to read.

Adult avid readers can be seen reading at bus stops, on airplanes, waiting in restaurants, and during many other moments when they can choose their activities. Classrooms in which students carry books and read whenever they have the time encourage students to become such adults who love to read.

Development of a sense of community among readers

If students are to become voluntary readers, they must interact with others who love to read and understand the value of reading for lifelong learning. Reading stories aloud, talking about favorite books, and keeping track of voluntary reading are activities which focus on students' excitement and positive interactions with books and with other readers.

Story read-aloud lessons. Story read-aloud lessons provide an opportunity for the teacher to demonstrate her enjoyment of reading. By reading stories aloud, the teacher makes students aware of a wide variety of genres, and she can model for them the process of deriving meaning and information from text. She can engage them in enthusiastic discussions of story ideas, authors, illustrators, and other aspects of literature which are pleasurable and interesting—in short, she demonstrates how reading can be fun. The books selected for reading aloud should cover a wide range of genres and information.

Book talks. Book talks are "in-class commercials" or advertisements for books that have been enjoyed by the teacher or children. A book talk can feature a single book or a number of books by a favorite author. Usually, the talk will last two to five minutes and include information about the title, author, genre, and something that was especially interesting to the reader who is endorsing the book. For example, a short book talk about *Clifford, the Big Red Dog* by Norman Bridwell could include a short discussion of the cover, reading and showing the pictures on the first five or six pages, and speculations about the novelty of owning a big red dog. The book then can be placed in the classroom library for students to read or made available to the students in other areas of the class. In addition, children should be given time once a week to talk about books they have read.

Books and Beyond. The Books and Beyond program is designed to produce positive, long-lasting changes in student behavior regarding recreational reading and selective television viewing. Students participate in a Read-A-Thon, a reading incentive program. Activities include reading books at home and at school, keeping records of those books, charting individual progress on a central bulletin board, and learning to monitor television viewing through the use of critical viewing skills. Teachers and administrators participating in the Read-A-Thon demonstrate the value of reading for pleasure.[5]

A Books and Beyond project was conducted at one of the KEEP sites which received book boxes. Students, teachers, administrators, and other school staff kept logs of their voluntary reading and received tangible rewards and recognition during the spring semester.

The classes reported that the project was very successful. Five hundred of 695 eligible students participated. Children in 26 classes from kindergarten to fourth grade read a total of 32,301 books during the 3 1/2-month period. Participating staff highly recommended the project to others interested in encouraging voluntary reading among their students.

Discussion

Many of the procedures described here use external rewards for encouraging voluntary reading. Research is needed to develop ways of shifting the reinforcement from tangible rewards to internal and social reinforcement systems. Developing social systems within schools and communities which reinforce the value of reading as a lifelong tool requires creative thinking on the part of educators, community leaders, and parents.

For all our research, the overriding factor determining success is whether the teacher believes in the value of voluntary reading. In KEEP classes, children may spend from one-half to three-fourths of the language arts period in independent practice. Much of this time is spent practicing skills taught through direct instruction. During this time students may also chose to read. We observed much variation in the amount of voluntary reading present in the classrooms. In classes with more voluntary reading, students had books readily available, had many opportunities to read, and were enthusiastic consumers of literature. The critical factor in the classrooms with more voluntary reading seemed to be the teacher's interest in developing her students' love of reading. How can schools support teachers who value voluntary reading? The answer includes providing an abundance of inservice and networking opportunities for teachers and a wealth of reading materials for the children.

Voluntary reading should be seen as a high priority. As eloquently stated by Fisher:

> The ultimate goal of reading in public schools must be the development of children and young people who love to read, recognize the value of reading, and view reading as a way to learn and grow throughout their lives.[6]

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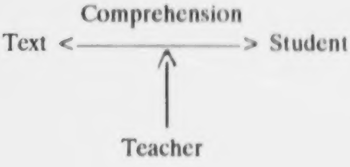
Developing Students' Reading Comprehension Resources

Teachers can help students develop strategies that will not only increase their comprehension of specific texts, but also transfer to new materials.

Sheida White

Reading comprehension instruction refers to the process of gaining meaning from text with some guidance from the teacher. It draws upon three sources of knowledge: the text, the student, and the teacher, as shown in the following diagram.



The text provides information or reflects the author's ideas and message. The student brings personal knowledge sources to the task of reading. These include (a) knowledge of language—decoding, vocabulary, word order, and text structure; (b) experiences and world knowledge; (c) ideas; and (d) feelings. Students' resources are fundamental to reading, and they need to be applied to a variety of texts students will encounter in and out of school.

The teacher helps students to apply, stretch, and develop their resources so that comprehension of the text can occur and improve over time, gradually leading to independent reading.

This article describes some ways in which the teacher can help students apply and develop their comprehension resources in three phases of the reading instructional cycle—before, during, and after reading.

Before Reading

Activating and building pertinent background knowledge

Reading comprehension begins with students' background knowledge (personal experiences and world knowledge). Students' background knowledge helps them make inferences about the topic to be read by filling in gaps left by the author.[1]

If children do not have adequate background knowledge or do not know how to access existing relevant background knowledge, reading becomes difficult, because they cannot fill in information assumed by the author. Weak prior knowledge may actually interfere with comprehension if the wrong background knowledge is activated.[2]

To activate background knowledge, teachers generally ask students what they know about a given topic before reading. When background knowledge is inadequate, teachers try to build it by engaging students in discussion or sharing information about a topic.

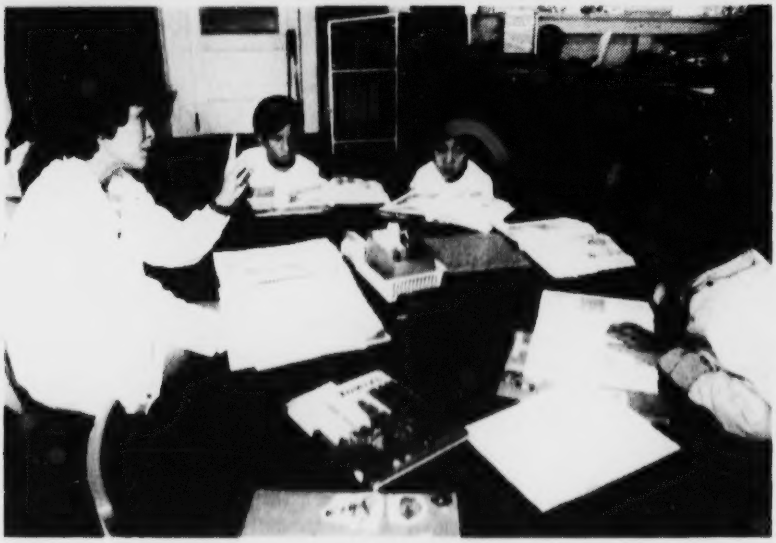
While activation and building of background knowledge has been widely discussed in the reading literature, what is often overlooked is the need to activate and build *pertinent* knowledge that can be linked directly to the main concepts and ideas of the upcoming text. Compare, for example, the following questions intended to elicit first graders' background knowledge prior to reading a story about a lion with a toothache who visits a dentist (Houghton Mifflin, "No Lions and Tigers").

1. What do you know about lions?
2. Can you recall a time when you were afraid of doing something but were able to overcome your fear?

The first question is relatively broad in that it brings into play all prior knowledge related to the topic. The second question, on the other hand, brings forth only information which is pertinent to the story's central concept—*overcoming fear.*

While it is important to engage students in conversation, limiting the discussion to the objectives of the lesson by no means limits the thinking. Activating and building *relevant* background knowledge promote better comprehension, especially for low performing, easily distractible students. And it saves valuable class time.

Focusing questioning on information pertinent to the text's central ideas requires careful planning. It requires careful reading of the entire selection, determination of one or two important concepts, activation of children's background knowledge for the central concepts, and selection of a strategy for building and organizing the relevant background knowledge.[3]



Predicting based on text

Encouraging students to make and defend predictions about events or outcomes prior to reading is generally useful. For example, before reading the next section of the story "No Lions and Tigers," the teacher asks, "What do you think the Lion will do now?" Prediction questions serve two important purposes: they help build children's expectations, anticipation, motivation, curiosity, and interest about upcoming events; and they help focus attention on important ideas by setting purposes for reading.

Most teachers ask students to predict events and outcomes. But they seldom ask them to explain the reasoning behind their prediction. It is important for students to cite supporting evidence from the text for their predictions for the following reason: when students are asked to make a prediction without giving a text-based reason, they are likely to make the text fit what they already know. For example, they may predict that the character will do as they would do in a similar situation. Thus, non-text-based prediction may reinforce the tendency to consider only one's own viewpoint,[4] closing the door to new ways of looking at the world.

There is a wealth of information to be gained from text. Ironically, if the text is short-changed, background knowledge is diminished and so, too, is subsequent comprehension.

During Reading

During reading, two important comprehension strategies are textual validation and text structure awareness.

Validating text

In critical reading, the supporting textual evidence is like the research data in scientific inquiry. Good researchers reject hypotheses, no matter how attractive, when confronted with contradictory data or evidence that does not support their hypotheses. Similarly, readers must learn to distinguish the textual information from their own frame of reference, and to reformulate their thinking in light of the evidence gathered by further reading. When students monitor their reading comprehension by attending to textual clues, they engage in critical reading, thinking, and "detective" work: They connect a particular inference or interpretation to an appropriate textual clue, and then rework their interpretation, if necessary.

Children's inattention to clues embedded in the text (e.g., a key word, a phrase) is the single greatest cause of failing to make a justifiable inference.[5] Zabrucky and Ratner[6] have found that good readers are more likely than poor readers to look back in a text, reread problematic text information, and to resolve inconsistencies during reading. Poor readers are likely to ignore inconsistencies, even when detected. Johnston and Winograd[7] have suggested that poor readers often fail not because of a lack of ability but because they do not use validation strategies spontaneously or effectively.

To give students practice in validation, teachers may use a method called Guided Paired Reading.[8] In Guided Paired Reading, students first develop conscious awareness of the importance of this comprehension monitoring task through teacher modeling of the validation strategy in reading lessons and discussion of its purpose. Next, students engage in a paired reading follow-up activity in which they read a portion of a reading selection to each other with expression. Following oral reading, they write answers to critical questions about central ideas. Finally they gather evidence from the text to support their answers. To facilitate students' application of this self-monitoring strategy to new contexts, such as writing, teachers engage students in a variety of independent application activities.[9]

Once the use of textual validation is internalized into a student's learning habits, that individual has a very powerful tool to approach a wide variety of activities in daily life.

Understanding text structure

Text structure refers to distinctive elements and their organization within a text type or genre such as a narrative, fable, or informational text. Fable elements, for example, include the characters and a moral point. Explicit knowledge of text structure has been shown to help comprehension, especially for low achievers.[10] For example, knowing that all fables have a moral point helps children anticipate this element and its organizational pattern. This anticipation then guides children's comprehension of the lesson to be learned from the fable.

Awareness of text structure is most beneficial in an independent reading situation in which children have to detect main ideas on their own. Winograd and Bridge[11] make the point that the ability to identify main ideas is more a matter of conscious awareness—it represents metacognitive knowledge.

I am currently studying a procedure for teaching narrative elements. Students build connections between the ideas in the text with a focus on identifying key story elements and related key vocabulary. This information is then shared in a small or large group reading lesson where features common to all narratives are discussed.

After Reading: Extending

After reading, the teacher typically ties together the previous discussion of the text, and then asks students to relate the important ideas and principles to their experience or world knowledge. This process of relating or connecting central textual information to the students' own experience and knowledge is here referred to as *extending*.

When students are encouraged to draw connections between text concepts and their personal experiences and knowledge, they learn to sort out commonalities and differences between textual information and their own life. Extending is one of the best techniques a teacher can use to help students develop a fuller understanding of the concepts in text.

I would like to make three recommendations concerning extending. (1) Extension need not be restricted to personal experiences, as is typical in practice. Textual information can be related or extended to other sources including the students' feelings, perspective taking, ideas, or to other texts they have read.[12] For example, the teacher may focus on developing perspective-taking abilities by encouraging students to take the perspective of a story character in a situation that differs substantially from their personal experiences or knowledge. She may ask students, "If you were in the situation of Allan [marooned on an iceberg], how would you feel?" When students are asked to put themselves in a dissimilar situation, they are less likely to attribute their own experiences or information to the story character. Instead of their personal experience, they are encouraged to tap their perspective-taking ability in order to empathize with the story character (i.e., feel as Allan did).

(2) The second recommendation is for the teacher to take care to make extensions explicitly relevant to the main points of the textual information. To ensure that children are not only *replaying* their life experiences, but also *relating* them to the text concepts, teachers may ask connecting questions, such as "What advice would *you* give Matt [a story character] if you were in his father's situation, and why?" If the actual wording of the question does not make the connection to the text concept explicit, students are likely to perceive the question as an isolated fact and not build the

connections, even though they have read and understood the text.

(3) The final recommendation about extending textual information is to ask students to give a reason, not necessarily a text-based reason, for their extensions, e.g., "Was it right for Jody to lie in order to save Paul? Why or why not?" By discussing the reasons why it might sometimes be alright to lie, the child may more readily see and value the applicability of information learned from the text to daily life.

The teacher may also help children *apply* reading comprehension strategies to areas other than reading, such as essay writing, research report writing, scientific experimentation, and problem solving. For example, the teacher may ask, "How does providing supporting evidence for your answer to this question help you write a better essay?" The purpose of this application of strategies is straightforward. A strategy that is applied to different domains is likely to become reinforced and versatile. And, a student who has acquired a strong and versatile set of strategies is more likely to find new areas to apply those strategies, and to do so independently. Another way of saying this is that when a strategy is strengthened through multiple applications in different domains, it is likely to become more transferable.

Conclusion

To help students acquire in-depth comprehension of text, three knowledge sources must be tapped: the text, which provides the informational content; the student, who brings personal resources; and the teacher, who applies her instructional knowledge to guide students' learning. The teacher does this by helping students use the five recommended comprehension strategies—calling forth existing background knowledge, making predictions, inferencing, validating, and extending learning.

Over the course of instruction, and as students gain control over their strategies, the teacher's guidance is gradually withdrawn. Teachers are encouraged to be mindful of this developmental progression and to plan independent application activities in which they themselves become participant learners.

Footnotes

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"I Want to be an Author": Development of Writing in Kindergarten

Stephanie made even greater gains, bounding from prewriting to connected text in the short span of three months.

Marlene A. Lindberg

How do young children learn to send information to others in writing? This question piqued the curiosity of Donald Graves and Marie Clay more than 15 years ago. In their separate lands they studied children engaged in the composing process, but they did not conduct their investigations in the traditional fashion. Rather, they broke out of the experimental mold that had shaped educational research for so many years to observe children as they wrote in natural settings, such as the classroom and the home. Graves and Clay focused not only on children's written products, but also on a) children as they created these products, and b) the context in which this creation occurred. Other researchers, Bissex, Dyson, Ferreiro, Harste, and Newkirk among them, soon joined ranks; the study of what has come to be known as "process writing" had been launched.

The Nature of Writing Research

Almost without exception studies in process writing have been ethnographic in nature, usually taking the form of individual or small group case studies. This method has been abundantly productive, yielding valuable in-depth information about individual writers over long periods of time. Yet, there are some research questions that are not amenable to this investigative technique. For example, questions about the writing behaviors of large groups of children do not lend themselves to case study research. It would be far too cumbersome and costly to conduct in-depth studies of large numbers of children.

How, then, can changes in the writing behaviors of groups, such as classrooms or entire grade levels, be studied? How can the influence of factors such as home literacy, ability, and instruction be investigated?

One way to address such questions is to examine samples of children's writing collected at specified time intervals during the school year. This research approach provides "snapshots" that document growth in writing much as snapshots in a family album document physical growth of the family's young. The snapshots—or writing samples in this case—can inform the instructional system about change in writing behaviors as groups of children progress through the school year.

This article describes a study designed to examine samples of kindergarten writing for a) change over time in writing behaviors, and b) factors that influence this change. An assessment procedure that focused on specific attributes of beginning writing was constructed for this study.

Kindergarten Writing Assessment

Writing samples were collected from 450 children in 17 Kamehameha Elementary Education Program (KEEP) kindergarten classrooms in January and again in April of 1986. In January, more than half the children were not yet able to write; when asked to write, they produced pictures or unrecognizable letters. The remaining children were able to form conventional letters, words, or sentences. While some children in this group struggled with basic letter formation, others were well on their way to successful composition.

The writing samples were evaluated using a scoring system comprised of 10 scales that sample skills spanning the ability range from picture drawing to composition of thematically related sentences. The 10 scales are summarized in Table 1. Eight scales assess attributes of writing only, while two scales measure characteristics of drawing. One of these evaluates only the picture whereas the other measures the degree of correspondence among the picture, writing, and oral message. (The oral message is the teacher's transcription of a child's response to two prompts, "Read me what you wrote" and "What did you draw?")

Patterns of Change

As a group, the 450 kindergarten children performed at a significantly higher level in April than they had 3 months earlier in January. This finding held for all scales, from those assessing the least difficult to those assessing the most difficult skills.

Table 1

The Ten Writing Scales

Scale	Description
1 Correspondence	correspondence among the picture, writing, and oral message
2 Integration of Picture	integration of elements in the picture
3 Complexity and Integration	complexity and integration of writing, ranging from isolated letters to three or more thematically integrated sentences
4 Graphic Characteristics	letter formation and orientation
5 Sound/Symbol Relationship	use of appropriate letters to represent sounds in words
6 Conventional Spelling	use of conventional spelling
7 Punctuation	use of punctuation marks
8 Word Boundaries	use of spaces to separate words
9 Fluency	use of a variety of verbs
10 Detail	use of a variety of adjectives/adverbs

The changes seen in drawing and writing can be described within the framework of three broad levels of skill development. The first level encompasses prewriting skills: the representation of ideas through drawing, scribbling, mock writing, and letters that do not correspond to what the child said he wrote. The second level covers word skills, which include spelling—invented or conventional, and recognition of words as discrete entities, separated by spaces or other markers. The third level consists of skills necessary for the writing of connected text. Connected text skills include writing of phrases and sentences, use of punctuation, and use of a variety of verbs, adjectives, and adverbs.

Prewriting Skills

In January almost two thirds of the children were clustered at the lowest of the three developmental levels, demonstrating only prewriting skills. By April, however, just a third of the children remained at this level, the other third having moved up to the word or connected text level of writing. Let's look at the writing samples of two children, Tyndale and Stephanie. Both were in the prewriting group at the time of the first assessment.

Between the first and second assessment Tyndale progressed from prewriting to word level skills. In January he wrote nothing, not even his name (Figure 1). When asked what he drew, Tyndale responded, "I

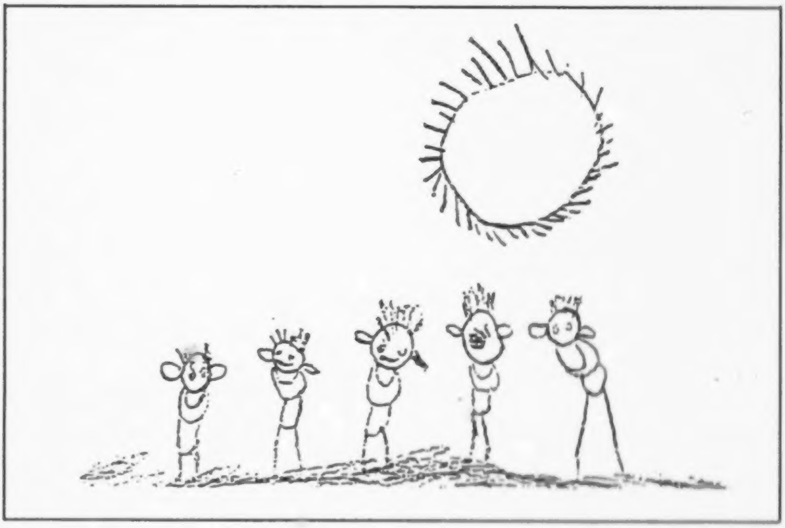


Figure 1. Tyndale's January Piece

at the beach. My brothers and sisters went with me. We going swim." In his picture we see the children at the moment before the activity is to begin.

In April Tyndale brought his piece (Figure 2) to life. He introduced his audience to the three boys in the picture by writing a name above each figure. The author is the middle figure, flanked by his friends, Jeremiah on the left and Sailitai on the right. With two words, "SWMO" and "going," Tyndale described the boys' activity: they are going swimming.

The children Tyndale drew in April are far better equipped for this activity than the children in his January picture. In April the figures have feet and arms, neither of which were present in January. The arms are carefully elaborated appendages, complete with biceps, hands, and—yes, count them—five fingers on each hand. Tyndale had achieved important gains in drawing as well as in writing.

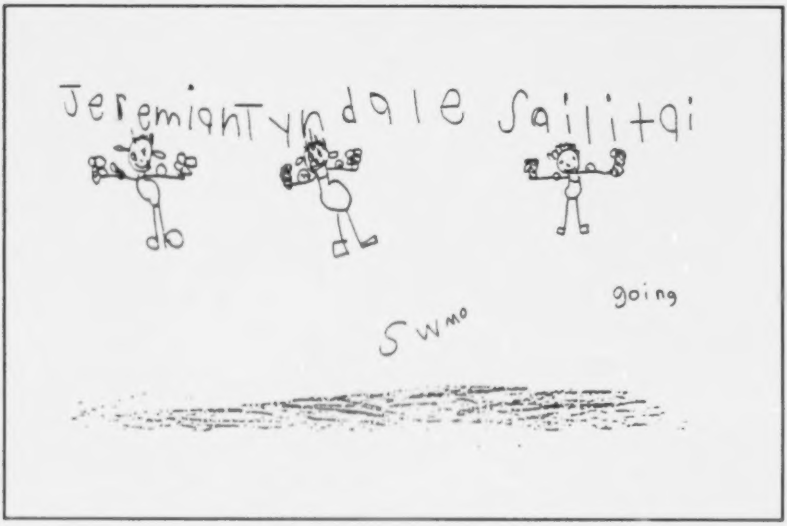


Figure 2. Tyndale's April Writing

Stephanie made even greater gains, bounding from prewriting to connected text in the short span of three months. In January she said of her picture (Figure 3), "I made my tooth and a napkin. I'm almost six but I'm still five. I made a Christmas tree that I have. I made a star." Her verbal report gave no indication that the objects were related to each other or to the numbers that are embedded in the picture. In the words of Ann Haas Dyson, Stephanie had not yet achieved "differentiation between the two symbol-producing activities,"[1]

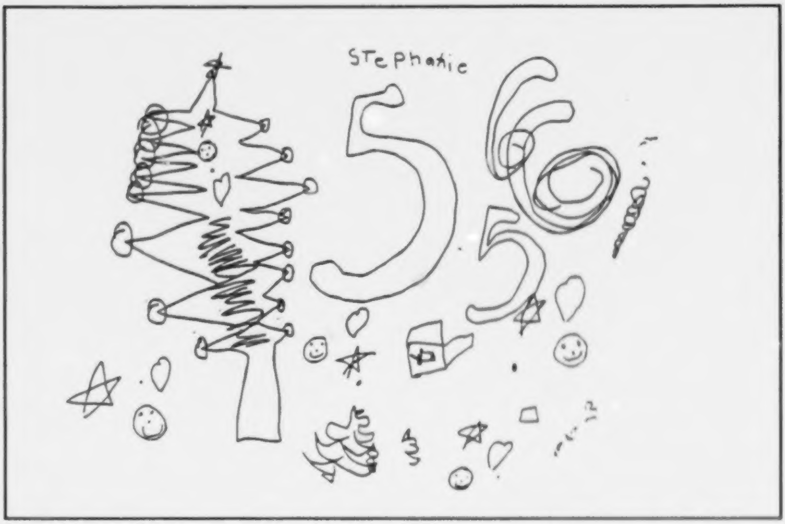


Figure 3. Stephanie's January Piece

drawing and writing. Dyson found in her 1982 study that on many kindergarten children's papers, drawing and writing were not related in spite of the fact that they "were intermingled on the page." Stephanie was in good company.

In April Stephanie demonstrated that she had learned to differentiate the two symbol-producing activities. She completely separated the writing from the drawing (Figure 4) when she wrote:

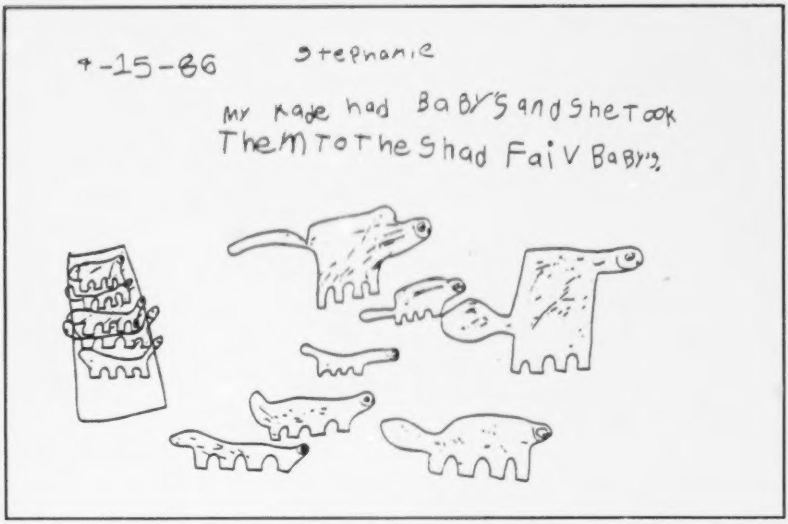
> My kade [kitty] had babys and she took them to the shad [shed] faiv [five] baby's.

Of her picture she said, "A daddy kitty and a mommy kitty. All the five babies." Now physically distinct, the drawing and writing complement each other in the delivery of a coherent message.

Stephanie did something else of interest when she divided her picture into two frames. In one frame the babies are in the shed, in the other they are out for a stroll with their "mommy" and "daddy." This young author clearly was not constrained by the commonly held notion that a picture can portray only one event. Her imaginative double feature was unique; it was not seen in the illustrations of other children in this sample.

Word Level Skills

Juel, Griffith, and Gough[2] suggest that word level skills must become automatic before a writer is able to direct attention to the higher order skills involved in composing. They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Stephanie
My Kade had BaBy's and She Took
Them To The Shad Faiv BaBy's

Figure 4. Stephanie's April Writing

maintain that until this occurs, writing is dominated by word level processing.

Tyndale demonstrated word level processing in his April piece when he wrote the names of the three children in his picture and the two words that broadly describe their activity. When asked what he drew, however, he issued a more definitive oral report, "We swimming in the water. We diving. We looking for octopus. We looking for fish." It appears that word level processing did indeed constrain his written message.

Yet, a number of children in this study did attempt connected text in spite of their lack of facility with word skills. In January Elizabeth wrote:

I hd __ M_ l__ B_
n__ h_ is c__ B__
to s__ t__ n___.

When asked to read her piece, she replied, "I had my lot bulldozed and he is coming back to smooth it out." Although Elizabeth was not proficient in word level skills—she wrote little more than initial consonants—she had a sense of composition as well as a sense of "wordness." Clearly her writing was not dominated by word level processing. Rather, she appeared to dismiss any concern she might have had for writing individual words in favor of composing her message in full.

Connected Text Skills

Few children were able to produce connected text in January.

By April, however, over a third of the sample used sentences to communicate their ideas. Those children who did write connected text in January generally wrote longer, better organized, and more elaborated text in April. Certainly this was so for Elizabeth.

Elizabeth made great strides—seemingly simultaneously—in her ability to write words and compose text. In April she composed the following piece; the title, spelling, and punctuation are hers:

> Wan I go To Flrdo [Florida]
>
> Wan I go To Flrdo I will see mY granmas.
> I will go To Kandeeland.
> I will go thar wan schoo is don.
> I will have Fon with mY grammoms.
> I have a graet granmam and graetdad.

Elizabeth was well on her way to successful composition.

Variables that Influenced Writing Performance

Many variables influence children's school performance, some of which they bring to the classroom, others of which they meet there. Three child variables, thought to affect beginning writing, were explored in this study: a) ability, b) gender, and c) socioeconomic status (SES). SES was considered the best available correlate of home literacy. All of these variables significantly influenced writing performance, their impact reflected in scores on every scale.

In general, children with greater ability achieved higher writing scores than children with lesser ability. Although apparent in January, this effect was more pronounced in the April assessment. Similarly, higher SES children out-performed lower SES children in both assessments, the disparity again larger in April than in January.

Girls scored at a higher level than boys on all scales in January and again in April. They achieved larger January-to-April gains on the scales that measure word level and connected text skills, whereas boys made slightly larger gains on the scales measuring prewriting skills. Thus, by April boys had narrowed the score gap on prewriting scales, but girls had widened the gap on word and connected text scales.

Influence of Instruction

Although ability, SES, and gender significantly affected writing performance, none of these child variables had as large an influence on writing scores as instruction. The impact of this variable, in fact, was twice that of the three child variables combined. Its effect was seen both in classroom score means and in changes in these means from January to April.

In January most classrooms fell at the prewriting performance level. In April only one classroom remained at this level, the others having progressed to either word or connected text writing. The highest achieving classroom scored at the connected text level in both assessments. By April the average child in this classroom wrote two thematically integrated sentences, whereas the average child in the classroom still at the prewriting level did not write at all.

Both *amount* and *kind* of instruction affected the children's writing. The authoring cycle was a highly visible feature of classrooms that produced the most successful writers. In these classrooms considerable time and effort were invested in a) preparing children to write, b) writing, and c) sharing written products. Children in these classrooms wrote with enthusiasm and authority. Their teachers viewed them as authors, and they came to view themselves in the same light. Theirs was a community of writers, actively engaged in the construction and exchange of knowledge.

In Summary

The writing assessment illuminated the dynamic nature of beginning writing and its ability to change dramatically within a short period of time. Many of the children in this study did not write at all in January. Yet, by April most had become users of written language. Their performance and progress were affected by several variables, including ability, SES, and gender. To a much greater degree, however, their development was influenced by the kind and amount of writing instruction they received. It was in classrooms where writing was a valued activity that the highest performance levels and most striking growth were achieved.

Footnotes

[1] Dyson, A.H. "The emergence of visible language: Interrelationships between drawing and early writing" in *Visible Language*, Autumn 1982, 360-381.

[2] Juel, C., P.L. Griffith and P.B. Gough. "Acquisition of literacy: A longitudinal study of children in first and second grade" in *Journal of Educational Psychology*, *78*, 1986, 243-255.

We wish to thank Jackie Carroll and Thomas G. White for their helpful editorial comments.

THE KAMEHAMEHA JOURNAL OF EDUCATION

CENTER FOR DEVELOPMENT OF EARLY EDUCATION KAMEHAMEHA SCHOOLS

Volume 1 Number 2 May 1990

PS 020472

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The *Kamehameha Journal of Education* publishes articles on the education of Hawaii's children. This journal is for teachers, principals, curriculum developers, college and university faculty, superintendents, and those in political arenas; in short, it is for anyone concerned with educational matters. Journal issues center around themes such as educational program descriptions, teaching strategies, instructional settings, cultural and learning-style differences, and current educational topics, all dealing with ways Hawaii's children come to enjoy school and succeed in it.

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Published by the Center for Development of Early Education, Kamehameha Schools, Kapalama Heights, Honolulu, HI 96817. The opinions expressed herein do not necessarily reflect the position, policy, or endorsement of the Kamehameha Schools/Bernice Pauahi Bishop Estate.

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The Kamehameha Journal of Education

Volume 1, May 1990

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Profile

Myron Thompson

Myron Thompson has been a vigorous and eloquent force in the development of the Kamehameha Pre-Kindergarten Educational Program or PREP. Early on he encouraged the Kamehameha Schools to have a parent-infant educational program, which began in 1978. In recent years, he has been active in obtaining federal legislation establishing Family-Based Educational Centers. Because of these efforts, we have chosen to profile him in this issue on the current Pre-Kindergarten Educational Program.

Mr. Thompson, why are you such a strong advocate of these early educational programs?

It's because of my professional career. I started out as a social worker in Family Counseling at Queen Lili'oukalani Trust. I saw that an individual's productivity is dependent upon how the person is brought up and the influence on that person from birth. My professional experience has told me that unless you reach a child very early, it is difficult to make changes later on in life. I've believed this for a long time, and the concept is beginning to gain in national support. We realize both locally and nationally that we have to be involved in early education if we want to assist young people to attain their maximum potential. Also, I believe in strengthening the family, particularly in pre- and post-natal care.

It's when a young woman is *hāpai*, is ready to deliver, that she's most vulnerable to wanting help. Up until then it's a dream, but when the baby starts to come that's when reality begins to hit; that's when she reaches out; that's when we should be around to support her.

How are you satisfied with what PREP is doing?

I'm pleased that we are moving in the direction of strengthening PREP. We've got a whole system, and it's that system that is important. I love it, because it is a system based on the growth and development of the infant. We start out in the home; then when the youngster is ready for group process, there is the Traveling Preschool; when the youngster is ready for separation into another setting, we have the Center-Based Preschools. Kamehameha Elementary Education Program (see Vol.1, No. 1 of *The Kamehameha Journal of Education*) should really be part of that system. Then, when the children graduate from elementary school, I see them being able to handle whatever educational institution they want to go to.

I'm hopeful because I'm seeing results. I haven't seen anything more positive than the test scores of children entering kindergarten from our preschool operations. But I think we must continue. We still have a long way to go, when you compare us nationally.

I don't know of any other state that has a system like we do with PREP. I think the federal government is beginning to see this process. It might be transportable and considered for other groups throughout the country.

How do you see the future of PREP?

I see PREP throughout the whole state. We're moving to Kona, we're talking about Kekaha, and we're talking about Keaukaha and Moloka'i. PREP should be continually expanded to where there are demonstrated needs. PREP is currently funded jointly by Congress and by Kamehameha Schools/Bishop Estate. And we will continue to ask for what we need. If it really pays off—and it is paying off—then I've got no qualms about picking up the cost for all of it.

The PREP Family-Based Centers can be the genesis for community development programs. PREP is a natural setting to link education with health care and health education. Why couldn't some of the health programs emanate from such a center? Why couldn't programs for the elderly be located there? It could include anything that the community wants to put in it. Then you get a whole community involved in its self-improvement. I think the beginning for it is there—in our PREP program.

Papa Ola Lokahi, which has resulted from the Native Hawaiian Health Act passed by Congress, is developing a health care system to meet the major health needs of Hawaiians. It will have a referral system for acute health problems and will focus on preventive health care and health education. Hawaiians have a lot of health problems: diabetes, high blood pressure, and high cholesterol are frequent among the adults. A lot of the health problems can be helped by diet. This health care system can easily be attached to a Family-Based PREP Center.

As a trustee of Kamehameha Schools/Bishop Estate, what visions do you have for the future?

My whole commitment in life is to assist our people to improve their well-being. That was how I was brought up. When I began as a trustee, in September, 1974, PREP is what I had as a vision. This undergirds a much longer term concern: for our young Hawaiians to be able to reach parity on a national scale and to be able to have choices on an international scale. Economically things are happening on a world-wide basis. Decisions are being made thousands of miles away that are going to affect us here in Hawai'i.

We should become acquainted with what is happening in other countries, especially those on the Pacific Rim. This is important for our future international relationships. Should we not consciously connect with those countries on an educational level? Should we not give our young people and young people in other countries the opportunity to interact and to become familiar and friendly with each other?

We started on this when we took Kamehameha High School students to Japan last year, and we visited Gakushuin. This is the school where my grandfather and Henry Peter's great-grandfather were sent by King Kalākaua. The King had the grand vision that his people needed to be educated abroad in order to take a leading role in all the changes that would be coming to Hawai'i. Today, Gakushuin is very excited about an exchange program and it wants to send seven teachers to Kamehameha Schools to be exposed to our ways. This is all part of our conscious plan to become acquainted with the other countries.

You have been an energetic supporter of the Polynesian Voyaging Society and of the Hokule'a ventures. How did this come about?

The Polynesian voyages allowed us to look at some aspects of our beginnings and how we got here. When our youngest child, Nainoa, said he wanted to crew on the Hokule'a on its first voyage, we encouraged him because he was looking into the history of our people. We had all kinds of misinformation and myths about how we got here. It is good to put some reality to it. The trips have been an excellent experience for us, the Hawaiian people, but also for the Polynesian people throughout the Pacific. Bringing the canoe to their islands stimulated their interest in their background. They told us, "You show up with your canoe and your crew, and you remind us why we are here."

In the Native Hawaiian Culture and Arts Program of which I'm a member, we have a 15 year plan to articulate the history of the Hawaiians. We are replicating sailing across the sea from the Marquesas using traditional materials, provisions, and implements. We will also take a look at what happened to the people when they came to Hawai'i, what kind of systems they developed in order to deal with the changing world, and how they adjusted to all the changes. When all this information is put together, I see Kamehameha Schools as the curriculum and dissemination center for Hawaiian historical material.

You yourself have seen many changes in Hawai'i. What are your feelings about these?

Well, things were a lot easier when I was a kid. I lived down in Waikīkī. There was a string of families living in single-family homes where the Ilikai Hotel now stands. I spent a lot of time in the water, surfing and fishing.

I am concerned about where we are going. We need to ask ourselves what we want to become; what we want these islands to be like. There's a tremendous international fantasy about these islands as the place of well-being. This is what we've got to preserve. My dream is to maintain this place as a haven, to have it available for appreciation by people throughout the world, while maintaining its uniqueness.

Mr. Thompson said of himself during our interview, "I'm interested in all kinds of stuff." A look at his professional and community involvement is evidence of his many interests. Among other things he has been a social worker, Executive Director of Queen Lili'uokalani Trust, State Administrative Director under Governor John A. Burns, and Director of the State Department of Social Services and Housing.

Currently he sits on the boards of Aloha United Way, Alu Like, Bishop Museum, and the Native Hawaiian Culture and Arts Program. He is Chairman of Papa Ola Lokahi, and presides over the Polynesian Voyaging Society and the Hui Nalu Canoe Club. Mr. Thompson is also a trustee of Hawai'i Loa College.

Gisela E. Speidel, Editor
Kristina Inn, Associate Editor

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The Authors

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The Pre-Kindergarten Educational Program: An Overview

The purpose of the Pre-Kindergarten Educational Program is to support the early learning of Hawaiian children so that they will be successful in school.

Robert Springer

On a shady lanai, expectant parents Lianne and Kalani are looking at a half-finished baby quilt with a visitor, excitedly chatting about the arrival of Lianne's and Kalani's baby. Pointing to the quilt panel with a picture of a grandfather and a baby playing in the ocean, Kalani says, "I want to be like that with my kid—take him places, do stuff with him so he can learn things."

In a nearby community park, a dark blue van has just arrived. Mary and Alice take out of the van a variety of intriguing things: toys, easels, books, a sand box, low tables and mats. Parents with their toddlers and maybe a baby on their arms arrive and sit on the mats. Two-year-old Malia spies the easel and paints and, letting go of her Mommy's hand, toddles over to them.

On a porch outside a classroom, four-year-old Kapua is sitting on her grandma's lap. Together with her classmates and their mothers, fathers, or grandparents, Kapua is listening intently to "Auntie" Missi who is reading to them about the fortunes and misfortunes of Small Bear and his daddy in *The Bear's Vacation*.

These happenings are part of the Kamehameha Pre-Kindergarten Educational Program or PREP, as it is usually called. They represent typical scenes from the Program's service-delivery components: (a) Home Visiting, (b) Traveling Preschool, and (c) Center-Based Preschool. Together these components provide a continuum of educational services for Hawaiian families from the time they are expecting a baby to the time their child is five years old, ready to enter kindergarten. In addition, behind the scenes, there are three important support units: (a) a project team responsible for conducting research, developing curriculum, and providing inservice training for staff members of each of the components; (b) a data-management and testing department, which collects student achievement data and stores it for convenient retrieval; (c) an evaluation department, which conducts interviews to determine demographics and interprets data, providing reports on program effectiveness. All six components, service delivery as well as program support, comprise PREP, a comprehensive and systematic approach to addressing the educational needs of Hawaiian pre-kindergarten children and their families.

Families can participate in the Home Visiting component as soon as mothers know they are pregnant (see Peet and Hosaka, this issue). Each week, a home visitor, usually someone from the community and who has received special training, visits the family to provide support and information during the exciting, but also stressful time that the mother is pregnant. These visits continue until the baby is two to three years old. As the baby reaches that age, the family is encouraged to attend a Traveling Preschool. The Traveling Preschool (TPS) offers a regularly scheduled two-hour program twice a week in neighborhoods where preschool experiences are few or may not be available. Parks, pavilions, and other safe outdoor community sites convenient to families are typical locations for this mobile early childhood and parent involvement program (see Fink, this issue). When four years old, the child can go to the Center-Based Preschool, which brings parent-community participation into a more traditional preschool environment (see Honma-Furuta, this issue).

PREP was started in 1983, though antecedents to its formal organization date from 1978. At that time the Home Visiting component was initiated, a fledgling effort to see what might be done to assist mothers and their infants, beginning as early as possible during pregnancy and continuing through the early years of the baby's life. Marian Rauch, now of Honolulu Community College, and Ormond Hammond, currently director of Kamehameha's office of Program Evaluation and Planning (PEP), were among the early leaders of this work. The second step came in 1980, when funding for eleven center-based preschools for Hawaiian children, which had been supported by income from State lands under Act 4 of the State Legislature and operated by the State Department of Education, was channeled to other purposes.

The trustees of Kamehameha Schools/ Bishop Estate thereupon instructed Jack Darvill, then Kamehameha's president, to examine this situation to see if The Schools might want to take over any of these. James Brough, then head of PEP, and Fred Cachola, Kamehameha's director of Extension Education, conducted a study and recommended that four be continued with funding from Kamehameha Schools—Waiheʻe (on Maui), Anahola (on Kauaʻi), and Nānākuli and Nānāikapono (on the Waiʻanae Coast, Oʻahu). The trustees agreed, and Kamehameha expanded the scope of its educational operations.

At the time, these two programs —Home Visiting and Center-Based Preschools—were managed as part of Kamehameha's Extension Education Division. In 1981-82, these units were moved to Kamehameha's Center for Development of Early Education. In 1983, Rich Roberts was hired to head this work in a newly formed educational unit, PREP. It was he who developed the comprehensive design of PREP's current offerings, tying the Home Visiting to the Center-Based Preschool component and adding the third component, the Traveling Preschool, to address the needs of the in-between group, the toddlers. Carol Hosaka and Corinne Peet were hired in 1979 to develop the prenatal/perinatal and infant/toddler curriculum of the Home Visiting component. Ginger Fink joined Kamehameha in 1987 and was the key person in the establishment and development of traveling preschools. Thereby the full range of services, prenatal to age five, came into being.

A major impetus for solidifying these efforts was Kamehameha's entry into the federal grants arena. This was a result of leadership by the trustees, spearheaded by Myron Thompson (see Profile, this issue), who had spent the better part of the 1970's and early 1980's working to get federal funds to be used on behalf of Hawaiians. Currently, through a grant to Kamehameha (# S209A90002, U. S. Department of Education), the federal government helps underwrite the costs of 11 Family-Based Educational Centers, supplementing expenditures of Kamehameha Schools/Bishop Estate. Of the amount needed to run these Centers ($2.931 million), $1.146 million comes from the federal government—39% of the costs; $1.785 million comes from Kamehameha Schools/Bishop Estate —61% of the costs.

The purpose of PREP is to support the early learning of Hawaiian children so that they will be successful in school. The program seeks to do this in the following ways: (a) by paying close attention to the cultural appropriateness of its content and implementation, b) by taking advantage of the importance of the family in supporting children's learning, (c) by emphasizing oral language and early literacy, and (d) by focusing on health issues and their effects on children's development and learning. All four of these features are interwoven into the curricular activities of each of the three components.

Although PREP is sensitive to cultural factors, it does not attempt to mirror Hawaiian culture. Modern Hawaiian families differ widely from each other in the extent to which they continue to follow Hawaiian traditions. However, certain cultural values and ways of interacting, and of establishing and maintaining friendships still prevail, as do some ways of teaching and learning. For instance, learning happens by watching, rather than by listening to verbal instructions and asking questions. One tries to avoid being *niele*, asking too many questions or being nosy, and one observes and holds questions until a later, more appropriate time. Cultural values, ways of interaction, and ways of learning are integrated into the instructional events of each of PREP's components.

Family involvement—the participation of parents, siblings, and other family and community members—is another priority. The extended family, the *'ohana*, is a very important part of children's learning. Family members of all ages work together and support each other. It is from the family that the young child learns the most about the world. Since many Hawaiian families are large, with many relatives in the community, members of the community are part of the child's learning environment.

A third feature of PREP is its emphasis on oral language and early literacy, particularly in regard to preschool-aged children. The program takes the view that every experience, at school or at home, is an opportunity for language and literacy development. Talking, building with blocks, looking at picture books, reading stories and discussing them are some of the activities that encourage the skills and forms of talk that make for school success.

In addition, each of PREP's service components includes health education and a system for referral to other social agencies. Hawaiian mothers and their infants make up one of the most at-risk groups for health problems. Such health problems have serious consequences on the child's physical and cognitive development. For instance, the high frequency of ear infections among Hawaiian children is of grave concern; ear infections cause hearing loss and can slow language development. This in turn creates learning problems in the language-dominated school environment. Currently, Kamehameha is studying ways to overcome detrimental effects of hearing problems. Principal investigator for the research is Robert Heath; costs are largely underwritten by a federal grant (# H133A90001, U. S. Department of Education). Thus, health education and prevention of health problems are viewed as being very important to all PREP components.

As mentioned earlier, the three service components of PREP operate out of Family-Based Educational Centers (FBECs); these are funded jointly by a grant from the U.S. Department of Education and by Kamehameha Schools. The centers are located in communities that have a high percentage of Hawaiian families who experience various educational, health, and social problems. These problems increase the risk that their children may be delayed in their development. Currently, there are five community FBEC sites with all three of the program components in place, four on O'ahu and one on the island of Hawai'i. (See chart below for a listing of these with enrollments.) Whenever possible, the program uses facilities which are convenient and already familiar to the community. The trustees and Kamehameha's

FBEC Enrollment: 9/1/89 - 2/28/90

	Program Component			
Site/FBEC Center	Home Visitor	Traveling Preschool	Center-Based Preschool	Total
Kahuku	32	110	20	162
Kona	44	•	•	44
Maili				
Leihoku	5	47	19	71
Maili	6	42	19	67
Makaha	11	107	20	138
Nanaikapono	19	121	20 •••	160
Nanakuli	13	56	20 •••	89
Waianae	14	93	19	126
Site Subtotal	68	466	117	651
Ulupono				
Kalihi-Palama	50	225	34	309
Papakolea	8	76	4 ••	88
Site Subtotal	58	301	38	397
Waimanalo	6	104	18	128
Total FBEC	208	981	193	1,382
Anahola, Kauai			20 •••	
Waihe'e, Maui			20 •••	
Total Non-FBEC	0	0	40	40
GRAND TOTAL	208	981	233	1,422

• Traveling Preschool to open March 1990, Center-Based Preschool to open Fall 1990.
•• In Fall 1990 enrollment for this Center is expected to approximate 20 students.
••• Hawaii Department of Education preschools operated by KS/BE.

current president, Michael Chun, are fully supportive of these efforts and have determined that Kamehameha's Family-Based Educational Centers are to be expanded, reaching at least three more communities next year and many more beyond this in the years to come.

PREP's philosophy of working closely with the family to provide an environment that supports a child's development and later success in school is in the mainstream of current thinking. Weiss, of the Harvard Family Coalition writes, "Family support and education—or family resource programs—represent a new way of working with families to empower and reinforce them in their development . . . . Thousands of communities around the country have initiated such programs in the past 20 years."[1] There are several factors, according to Weiss, that have come together to heighten the current interest. Most importantly, there is a growing awareness, supported by research, that the family influences the development of the child. Moreover, the results of a number of longitudinal evaluations of early childhood education programs have shown the enduring benefits of early intervention programs, including those that work with parents to promote child development.

PREP's serious consideration of cultural factors in its family centered educational programs is at the forefront of current practices and is critical to its success. "For many cultural groups, insensitivity of health care providers to cultural factors is a severely limiting factor in the quality and acceptability of services."[2]

Each of the three service delivery components of PREP—Home Visiting, Traveling Preschool, and Center-Based Preschool--is described in some detail in this issue (see Peet and Hosaka; Fink; and Honma-Furuta). The remaining papers describe PREP's efforts to incorporate the children's culture into the program and to enhance our preschoolers' language and literacy experiences (see Fink; Speidel and Kennedy; Tanaka; Herman, Levin, Ai-Chang, and McClellan; and Mistry, Martini, Salls, and Perez; this issue). The educational activities mentioned in these papers have been developed especially to meet the needs of Hawaiian children and their families. However, they can be readily adapted to other educational programs for parents who are expecting a baby, or who have infants or preschoolers.

Footnotes

[1] Weiss, H.B. "State family support and education programs: Lessons from the pioneers" in *American Journal of Orthopsychiatry*, *59*(1), 1989, 32.

[2] Roberts, R. and R.P. Calkins. *Family Based Education Centers, Grant No. MCJ-153565-03-3: Final Report*, 1989, 12.

Home Visiting

Home visitors assist families in learning more about pregnancy, childbearing, and childrearing.

Corinne Y. Peet
Carol M. Hosaka

The first years of life are filled with amazing changes. While playing, exploring, eating, the child learns about the people around him and their language. How to make this early learning as successful as possible is what Home Visiting is about. This component of the Kamehameha Pre-Kindergarten Educational Program (PREP) is for families who are expecting or have a baby and continues until the child is two to three years old.

Expectant mothers are encouraged to join PREP's Home Visiting Program early in pregnancy. The period of pregnancy, childbirth, and parenthood is an exciting but also stressful time, especially for first-time parents. It is a time when parents are particularly eager for, and in need of information. PREP home visitors provide this support and guidance, and assist families in learning more about pregnancy, childbearing, and childrearing. They provide information and encourage attitudes and practices that foster children's social and intellectual competence and desire to learn; they assist parents and families in their role as their child's first teachers.

Our home visitors visit their families once a week. A visit is usually for one to one and a half hours and usually in the family's home. But visits may take place wherever it is convenient for the family—at parks, at a parent's work place, or at a PREP site.

The Home Visiting Approach

Home visits are informal and conducted in a way that is sensitive to the social organization of the family, their values, and their communication style. During the first home visits, the family and the home visitor get to know each other. Often the family and the home visitor will discover common friends or even common relatives. With time the home visitor becomes a trusted "auntie" whom one can turn to for advice and suggestions.

The home visitor uses a *talk-story* approach to introduce and support topics in the curriculum. She weaves the information into the ongoing conversation. For example, as the home visitor and the mother are watching the toddler play with a new toy she has brought, a box with different shapes, the conversation might turn to observations and ideas about what the child is learning. The mother might say, "He sure is working hard trying to fit that square block into the circle hole." The home visitor might then add, "Yes, he's still learning to see the differences between the different shapes; but you've taught him to keep trying until he matches the correct shape. How can we help him look at the shapes more carefully?"

Training of the Home Visitors

The training of our home visitors is thorough. Preservice training covers aspects of working with families, home visiting process skills, communication and interviewing skills, professionalism, family case management and referral, crisis intervention, family relationships, and parenting. In addition, home visitors receive intensive training in the Home Visiting curriculum. Training also includes information on child development, and awareness and sensitivity to cultural differences. Training in the field includes accompanying experienced home visitors on several home visits, in order to see how these skills and information are integrated.

The Curriculum

The goal of the Home Visiting Program is to promote positive interactions between the family and the child—especially those interactions which are known to facilitate later learning. Moreover, family health and health education are integral aspects of the program. The Home Visiting curriculum has four developed parts: (a) prenatal /perinatal and family health education, (b) making a quilt, (c) T-shirts, and (d) *Hawaii Early Learning Profile*. A fifth part of Home Visiting is family case management, an ongoing process that includes family needs assessment and referral to other appropriate health, social, or educational services.

Prenatal/Perinatal and Family Health

A unique feature of our Home Visiting Program's preventive education efforts is its prenatal/perinatal component, which targets expectant families as early in pregnancy as possible and focuses on improving the health of expectant mothers and their developing babies.[1] There is an urgent need for such a prenatal education program.

Hawaiian mothers have the highest rates of premature births and low birthweight babies in the State. Yet, less than 60% of expectant Hawaiian mothers begin prenatal care during the first three months of pregnancy. With this focus we hope to improve these outcomes.

The prenatal/perinatal curriculum is made up of 14 instructional units. Below, a brief description of each unit shows the extensive information conveyed in this part of the PREP curriculum.

Unit	Description
Overview	is an overview of pregnancy, the postpartum period, and the curriculum; promotes awareness of traditional Hawaiian beliefs and practices about pregnancy and birth.
Pregnancy	describes the development of the fetus and the normal range of physiological, emotional, and psychosocial changes associated with pregnancy; discusses coping strategies to deal with these stresses.
Precautions, Risks, and Complications	discusses signs of complications during pregnancy and describes health practices that may prevent such complications and promote a healthy baby; reviews the dangers of substance intake, infections, etc. on the developing fetus.
Nutrition, Diet, and Weight Gain	outlines the nutritional needs during pregnancy and the benefits of good nutrition for both mother and developing fetus; describes healthy weight gain patterns.
Patient Rights and Responsibilities; Effective Consumerism	provides guidelines and information to help the expectant family communicate with medical providers and to select a doctor for their baby.
Exercise, Rest, and Posture	reviews prenatal exercises to help minimize discomfort and enhance conditioning in preparation for childbirth; discusses the importance of rest and relaxation and techniques for stress reduction and relaxation.
Preparation for Labor and Delivery	provides information on labor and delivery, such as the stages during labor and delivery, breathing exercises to cope with pain, commonly used types of anesthesia and their effects, and Cesarian-section deliveries.
Hospital Policies, Procedures, and Choices in Childbirth	takes the expectant mother on a maternity ward tour so that she gets an idea of what her hospital stay will be like and finds out about family-centered maternity care, and the policies and procedures involved with hospitalization.

Breast and Formula Feeding	gives information about infant feeding methods, including breastfeeding, as well as common concerns and problems; discusses how parent-infant interaction during feeding can enhance the baby's learning.
Preparation for Baby	outlines physical and emotional needs of babies and ways of meeting these needs and the necessary supplies to be acquired; discusses how baby's learning may be enhanced by playing and talking while caring for the baby.
The Newborn	describes common characteristics, abilities, and early behaviors of babies; gives information about how babies learn and how people who care for the baby can foster this learning; suggests ways for promoting parent-infant attachment and bonding.
Postpartum: Process and Adjustment	reviews the normal range of physiological changes and emotional reactions that occur during the weeks after birth; ways of supporting the mother and helping her cope during this period are discussed.
Infant Car Safety	emphasizes the importance of infant car safety and reviews Hawaii's car seat law; presents information about acquiring a car seat, in order to prepare parents for taking their baby home from the hospital.
Family Planning and Contraception	discusses family planning and its goals, reviewing health, social, economic, and other implications of spacing births; provides information about contraceptive methods and explores attitudes towards birth control.

A wide variety of curriculum resource materials are included as part of a prenatal parent resource manual, Ka Ho‘okipa ‘Ana I Ka Kāua Pēpē (Welcoming Our Baby), which is given to and reviewed with expectant families during home visits. Throughout, the family health component promotes health and preventive health care and focuses on identified areas of concern.

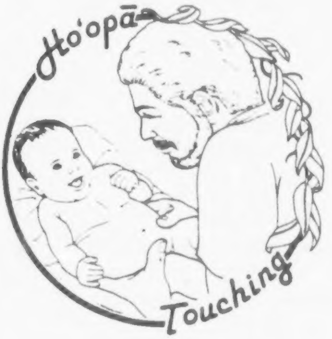
To share the information contained in the curriculum, the home visitor may demonstrate relevant skills and give the expecting mother opportunities to practice them; the home visitor may also use games, charts, models, videotapes, filmstrips, or slides with audio-cassettes. One of the main ways of sharing information, before and immediately after the baby is born, is making a quilt for the baby and talking with the family about concepts imbedded in the baby quilt.

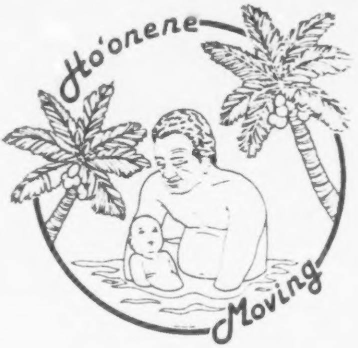
Making a Quilt for the Baby

"No Hawaiian child . . . should grow up in Hawaii without having experienced the warmth and comfort of his very own *Kihei Pili*."[2] Although not a Kihei Pili (a particular style for a Hawaiian baby quilt), PREP's *Kupulani Kapa* or Quilt is based on the idea of making a special kapa to welcome the baby.[3] The process of making the kapa is a means by which the mother and family prepare for the baby as they talk with the home visitor about their beliefs, their hopes, and their worries. It also gives the home visitor an opportunity to share, in a talk-story mode, information about the important role of the family.

The Kupulani Kapa has four panels, each depicting an adult interacting with a baby. Each picture represents a sensory mode in which the baby learns about the world.

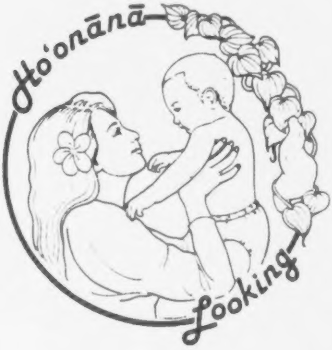
The first panel, *Ho'opā*, shows a father or an uncle communicating with the baby through touching and massaging (*lomilomi*) as the baby shows pleasure, smiles and looks at the adult's face. While talking about this picture the home visitor can discuss the importance of touching; how the baby feels warmth and love by being touched; how the baby learns about the world through touching and mouthing. This panel also lends itself to topics such as breastfeeding, cuddling and holding the baby securely while feeding, letting the baby explore his hands, fingers, and toes, or sooth and comfort himself by putting them in his mouth, and encouraging the baby to touch things and people. In short, the panel focuses talk on the importance of tactile stimulation in learning.



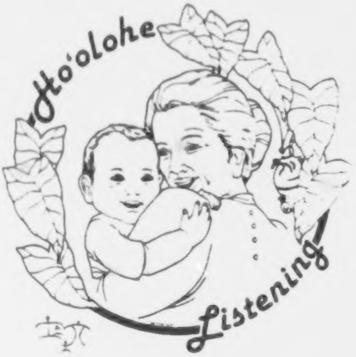


In the second panel, called *Ho'onene*, grandfather is holding the baby and they are enjoying the soothing pleasure of gently moving back and forth in the calm water of the ocean. This panel represents the importance of movement or vestibular stimulation. The picture fosters talk about how to respond to an infant's distress—by picking him up, shifting his position, gently rocking and soothing him. During the conversation the home visitor also points out that parents and those who care for the baby teach the baby about the world and themselves by their responses to the child's needs and communication attempts. What the baby experiences early in life will affect his attitudes about himself and his curiosity and learning.

The third panel of the quilt is about looking or visual stimulation and is called *Ho'onānā*. In it the mother is gazing into the eyes of her baby and the baby is looking back at her. This picture encourages discussion between home visitor and family members about the importance of using a face to face position when feeding or otherwise interacting with the baby. Playing visual games with the baby, talking to the baby, and telling him about what he is seeing and touching are other topics which are elicited.



The last panel, *Ho'olohe*, focuses on listening and auditory stimulation. It shows grandmother perhaps crooning the baby's *mele'inoa* (name song) and talking to the baby who is smiling contentedly. With this panel, the talk is about how even very young babies can tell when they are being talked to, and how being talked to, along with looking and moving, is important for learning. Talking to the baby while caring for his needs, responding to the baby's babbling with words or other sounds, and soothing the baby by talking to him are significant for the baby's social and language development.



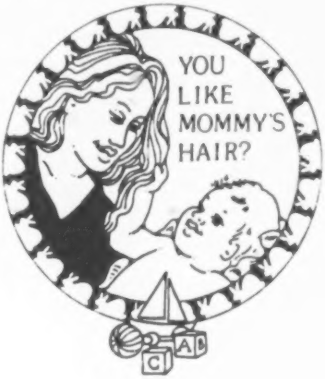
In this manner, the kapa gives the family and home visitor occasion to talk about how babies learn through the different senses and modes and the importance of each mode. The home visitor can easily weave into the conversation practical tips on child care and early stimulation of the baby.

The kapa has several uses other than providing information about how babies learn and how to promote that learning. The quilt is a special welcoming blanket for the baby; it is valued by the family as an expression of their love for the child; and, through its presence, it is a gentle reminder of the important role of families in the education of the child.

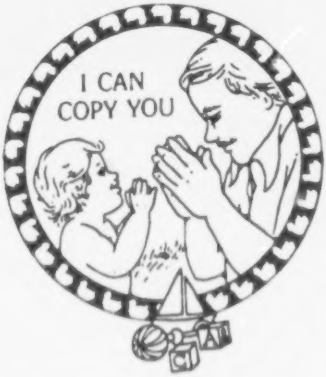
T-Shirts

Wearing T-shirts with captions and vivid images is typical of Hawaii. Such printed T-shirts, often with drawings and words taken from one of the many ethnic groups in Hawaii, are a form of self-expression. This use of T-shirts by the local community as a means of expressing ideas, feelings or membership in a group prompted the use of T-shirts in the Home Visiting Program.[4]

T-shirts, therefore, are used as a means to stimulate conversations with parents and relatives about the baby's learning and development. Beginning with the fourth month, the home visitor brings T-shirts for the baby: one each month during the baby's first year and every second month during the second year. The T-shirts have pictures and words printed on them representing significant concepts or stages in a baby's development. These pictures help to focus the conversation on how the baby learns language or how he builds concepts about the world. Many of the ideas were already introduced during the quilt-making and are expanded upon, or pointed out with the baby now present. For example, the 5 month T-shirt shows a picture of a baby tugging at mommy's hair with the caption *You like mommy's hair?* One suggestion for the parents during this period is to name things as the baby touches them or to name the actions the baby is doing. Not only does the baby continue to learn by touching, tasting, smelling, and looking at things, but by hearing the words of what those things are called.



Many of the concepts embodied by the shirts are abstract and require application of a range of skills over a period of time in a variety of settings and activities. The T-shirts make these concepts more concrete. Each T-shirt has a list of concepts for discussion and some suggested activities for the caregivers.[5] For example, the 8th Month T-shirt, *I Can Copy You*, lists the following concepts for discussion: (a) A child learns by imitation, (b) a child can tell when she is being talked to, (c) a child shows you what she understands by using gestures, (d) development of self-image starts with trust, (e) it is important to initiate games by imitating the child's gestures, and (f) games should be initiated by imitating the child's vocalizations. Accompanying this list are suggested ideas for interacting with the baby: (a) Initiate games by imitating your child's gestures such as pat-a-cake, (b) imitate your child's vocalizations, and (c) look at animals and animal pictures with the child and make the sounds of the animals.



T-shirt pictures are a blend of ideas and skills that support the family in their goals for the education of their child. As with the kapa, the drawings on the shirts not only encourage the sharing of information, but are also a gentle reminder of the concepts they represent. The concepts, which correspond to periods in the baby's development, were synthesized from current early childhood education wisdom, personal experiences, and the *Hawaii Early Learning Profile and Activity Guide.*

HELP—Hawaii Early Learning Profile

HELP, the basis for the early education curriculum, consists of a set of charts which graphically displays in monthly intervals, the normal development of a baby's skills in six areas: cognitive, expressive language, fine motor, gross motor, social-emotional, and self-help.[6] The profile gives a visual picture of the development of the whole child from birth to 36 months. It guides the home visitor in selecting skills to be enhanced and in looking for emerging skills during home visits. A collection of activities and materials comes with the charts to encourage the development of particular skills. The profile also identifies periods of stress for the baby and the family. Thus, home visitors use the profile, charts, and activities to plan their discussions and activities with the family.

Family Case Management, Consumerism, and Community Networking

The home visitor has another important role: to assess their families' needs regarding their health and social well-being. She helps the families make contact with other appropriate or needed health, social, and educational community services. Through such support and assistance, the families' problem solving capabilities, consumerism skills, self-confidence and self-esteem, and sense of coping with stress are enhanced.

Conclusion

The Home Visiting Program of PREP has blossomed from its modest beginning in 1979, when it had only three home visitors. Currently there are 15 home visitors who visit approximately 225 families during the year. The comprehensive nature of PREP's Home Visiting Program reflects current thinking about supportive family education programs nationally. Weiss, director of the Harvard Family Support and Education Project, writes,

> In an effort to be more responsive to families, many programs have added new components such as home visits, parent groups, or information and referral services . . . A strong argument can be made that these programs serve families better, based on child development theory and research as well as on the cumulative wisdom of program experience.[7]

To try to evaluate the Home Visiting Program by using a rigid experimental design (which would include a comparison group that does not get the support of home visitors) does not seem a good idea, since it could be destructive for the community. However, programs similar to ours on the Mainland show positive effects.[8] Moreover, the content of the Home Visiting curriculum is drawn from a solid base of prenatal and perinatal research and research on the effects of early social and environmental conditions on the child's later intellectual development. Anecdotal evidence suggests that our program makes a difference in how new parents view and respond to their infants and in their later involvement in educational programs. For example, most graduates of the home visiting program are enrolled in some form of preschool education. In follow-up interviews, parents report that the most important information they received concerns what to expect in childbirth, how to play with and stimulate their children, and what to expect developmentally from children at different ages. . . . Parent graduates report that the best things about the home visiting program, in addition to the home visitors themselves, are the support they receive and the opportunities the visits afford to share their experiences, problems and joys of parenting with another caring adult.[9]

Footnotes

[1] Peet, C.Y. "The Kupulani prenatal/perinatal curriculum: Family-based pre-parenthood education," *Bulletin #16*, Honolulu, Hawaii: Center for Development of Early Education, Kamehameha Schools, 1984.

[2] Stevens, N. *The Hawaiian Quilt*, Honolulu: Napua Stevens Service Printers, 1971, 23.

[3] Hosaka, C.M. "The quilt and T-shirt curriculum strand: A social-educational context," *Technical Report #110*, Honolulu, Hawaii: Center for Development of Early Education, Kamehameha Schools, 1983.

[4] Hosaka, *op. cit.*, see footnote 3.

[5] For a detailed description of the concepts and activities suggested for use with each T-shirt, see Hosaka, C.M., *op. cit.*, see footnote 3.

[6] Furuno, S., K. O'Reilly, T. Inatsuka, C. Hosaka, T. Allman, B. Zeisloft-Falbey. *Hawaii Early Learning Profile*, Palo Alto, California: VORT Corporation, 1987.

[7] Weiss, H. "Issues in the evaluation of family support and education programs" in *Family Resource Coalition Report, Harvard University, 2*, 1983, 10-11.

[8] Chamberlin, R.W. "Developmental assessment and early intervention programs for young children: Lessons learned from longitudinal research" in *Pediatrics in Review*, *8*, 1987, 237-248.

[9] Roberts, R.N. "*Ka ho'okipa 'ana i ka kāua pēpē*: Welcoming our baby" in *Children Today*, July-August, 1988, 10.

The Kamehameha Traveling Preschool

A mobile educational program takes exciting learning to young children and their families, wherever they might be.

Ginger Fink

In 1987 Kamehameha's Pre-Kindergarten Educational Program undertook an innovative project, one that has expanded not only the availability of educational services to Hawaiian families, but the concept of "school" among local educators. With the piloting of the Traveling Preschool, an adventure in true community-based learning programs began, one that has changed the complexion of early education in Hawaii.[1]

The idea is simple: Have "school" out of doors. Since good weather generally is one of the state's most famous resources and beautiful environments are plentiful, it makes sense to use the outdoors as a learning place, as a classroom. The furnishings, toys, and educational materials can be transported to selected neighborhood gathering places, and school can be set up on the spot.

The first site selected was a popular community beach park situated between the ocean and the rural highway that circles the island. A pavilion provided shade and protection from the ocean breezes. The bus stop was conveniently located at the park entrance, and a few local stores were across the highway.

Following notification of agencies and families in the neighborhood, preschool opened one February morning. The teacher arrived in her station wagon filled with mats, tables, toys, books, puzzles, snacks, musical instruments, and an assortment of brochures, books, and other materials of interest to parents. A few families were waiting and helped her unload and spread the materials about on the lawn. Children immediately busied themselves, playing with Play-Doh, drawing with marsh pens, or reading. There were stacking and pulling toys for young toddlers, mouthing toys for infants as well as manipulative toys for the older preschoolers. Parents were encouraged to play with the children, talk with them, and enjoy the activities together.

Though the idea of a preschool meeting out of doors seemed somewhat improbable at first, it caught on quickly. For some families, this was an educational opportunity for their children they might otherwise not have been able to afford. On that first day, six parents and nine children attended the Traveling Preschool. Two years later, eight Traveling Preschool teachers have provided preschool experiences to more than a thousand children.

The Traveling Preschool, or TPS, is a mobile early childhood and parent education program. Teacher-and-aide teams travel to pre-selected neighborhood locations where they set up and conduct school for two hours each morning. Each team serves two neighborhoods, one on Mondays and Wednesdays, the other on Tuesdays and Thursdays.

Though the target age for the program is the two- and three-year-old, younger and older siblings are welcome. A parent or other caregiver of legal age must accompany and remain with the child during program hours. Families are asked to help maintain a ratio of no more than three

children to one adult since the adult-child interactions are of great importance, and safety concerns require that all children be closely supervised. Pre-registration is not necessary and families may walk into the program at any time, although continuous participation is encouraged. The program is open to anyone from the community regardless of ethnic background.

Because the program is free, requires no registration, and is conducted in public places, it is often the entry point into needed health or social services for families who otherwise might not know where or how to get help. The TPS staff makes referrals for special health concerns, emergency food, financial or housing assistance, or other Kamehameha programs. For example, young pregnant mothers are often referred to the Home Visiting Program.

The TPS is also a point of identification for children with special learning needs. Early identification of these children provides opportunities to assist them in special ways. Referrals are made to the appropriate health or educational agencies for screening and placement. In some cases, the TPS becomes part of a child's treatment plan since the variety of learning activities offers opportunities for the development of a wide range of skills. By being included with other neighborhood children, these special children receive support in a normal setting. In that sense, TPS has expaned opportunities in Hawaii for serving children who qualify for early intervention services in a "least restrictive environment" as described in the new federal legislation for handicapped children, Public Law 99-457 (1986).

Child Curriculum

The Traveling Preschool provides learning opportunities for the children's cognitive, physical, social, and linguistic development. Activities are organized into learning centers and children are free to select the activity that interests them. Activity choices might include painting, puzzles, dramatic play, science, music, looking at books, or listening to stories.

The curriculum is organized around learning themes: the body and the self, the family and the relationships therein, the home and its furnishings, the community and its people and geography, vehicles and transportation, the ocean and marine life, and the animal kingdom. These themes are planned to coincide with holidays, celebrations, and the seasons. The materials, plants and animals, books, and learning activities are chosen to reflect the particular theme. For example, when the theme is transportation, the items in the dramatic play area often include a car, a bus, a gas pump, and other transportation related props, all made of large cardboard boxes. The reading task assigned to parents will consist of reading neighborhood traffic signs for their children. Books in the TPS library will be about vehicles. The science activity might be pumping a bicycle tire with a hand pump, while the art activity might include a crayon rubbing over a section of tire tread. Small vehicles of various sorts will be added to the building blocks in order to extend the play, thinking, and language about transportation.

Children at the TPS also learn those behaviors necessary for becoming successful in a formal school environment. They learn about taking turns, and sitting in a group for short periods of time, and giving the teacher their attention. They become skilled in handling writing tools, scissors, tape recorders, books, and paints. They learn that items belong in certain places and that they are expected to put things back and help restore order. They learn to tolerate short waiting periods, and to express needs and ideas verbally.

There are two special features to the TPS curriculum: an emphasis on language and literacy development and the inclusion of aspects of the children's culture. (For a detailed description of the cultural aspect of the curriculum see Fink, "The Child as a Member of His Culture," this issue.)

Children learn language naturally while they are communicating with adults or more competent children about the things they are doing and feeling. Accordingly, the focus on language development in our curriculum emerges from how we design the environment and learning tasks, and how we ask the parents to interact with their children at the learning centers. We make sure our activities are exciting so that the children are stimulated to talk. We ask the parents to encourage their child's talk and to talk with their child about what the child is doing. Signs that give the parents ideas for how to talk about the activity and for words that could be used are posted at the various learning centers.

Parent Curriculum

When children are very young, the most influential teacher is the parent. TPS assumes that the influence of the parent is profound and lasting and that parents bring rich resources to the learning program. Therefore, we have developed a strong parent curriculum and ask parents to participate in the program in a number of ways.

First, parents are encouraged to take on a teaching role. They are asked to join the children in their learning activities and games, talking to them, explaining what may be happening, and praising the children's efforts. Parents are helped in this role by signs at the learning centers which describe what to do, how to help, and what the children might learn from the particular activity. These signs might include suggestions as to words they could use to express themselves more explicitly, and to expand the children's vocabulary. For example, a sign might read: "Play with your child in the kitchen. Flip the eggs (circles cut out from sponges) with a *spatula*. You might ask, 'Which is the *yolk*?'" Another sign might read, "Enjoy the sand with your child. Talk about how the

sand makes the wheel turn. Use these words: *gritty*, *trickle*, *funnel*."

Parents are encouraged to make activities and games out of things found in their homes or in their neighborhoods. For example, a matching game might be made from leaves or seed pods; a puzzle might be made from paper plates. Parents are also encouraged to make books about their neighborhoods or about their children, and to record stories the children dictate to them.

Parents serve as resources. They provide materials, skills, and information. For example, when the curriculum theme is the ocean and marine life, a family member who fishes might be asked to bring part of his catch to school, or to demonstrate making a fishing net. Family members might also show how to husk coconuts or prepare certain recipes. They are the source of many songs and stories.

Parents are the librarians for the lending library. A collection of books is available for parents to check out for their children. The children are given their own bags for carrying these books, as in the Book Bag Project for the older children in the Center-Based Preschools (see Tanaka, this issue). Parents assist the teacher in evaluating which books are the most successful choices.

The parent curriculum includes a daily feature of a single idea or concept designed to help parents become better teachers. The concept is usually discussed briefly during a group time. An example might be "Reading signs in the neighborhood is real reading." The idea is to encourage parents to point out words in the child's environment. After a brief discussion of the idea, a one-page flyer containing suggestions about how to implement the concept is handed out and parents are encouraged to share the idea with others at home.

In addition, there is a parent resource table with materials for parents. It includes a bulletin board with a calendar of the school and community events. Also featured are books about parenting or other topics of interest to parents. These are available for borrowing.

Throughout the year parents, children, and staff enjoy excursions into the community, and parents take the lead in preparing for the celebrations during the year. Parents get to know each other well, and share in the care of the children. The high level of involvement enhances the spirit of *'ohana* and strengthens the community.

Concluding Comments

Kamehameha's Traveling Preschools have made their place in Hawaii. The model continues to grow and change as do the children. The program's flexibility and portability are valuable features at a time when communities are searching for new ways to reach populations in varied circumstances, from isolated rural communities to urban shelters. The best classrooms are not necessarily the ones with walls, but any safe place where those who love and value children gather to surround them with exciting, carefully planned learning experiences in the context of their culture, with rich verbal interactions, and with many opportunities to succeed.

Footnotes

[1] The concept of a mobile parent/child learning program has also been used by other social service organizations in Hawaii for program purposes such as the prevention of child abuse and neglect, and family child care support.

Center-Based Preschools

Our philosophy is that every experience, at home or at school, is an opportunity for language and literacy development.

Karen Honma-Furuta

Early childhood education comes in many shapes and forms, from formal, direct instruction of "academic" skills to the *open education* approach, in which what is open—curriculum, setting, and so forth—is open to interpretation itself. Preschool educators usually agree on the long-range goals of preschool education, such as the development of critical thinking, language skills, independence, social responsibility, and self-esteem. Debate, though, rages over how to attain those long-range goals. Which short-term objectives and which kinds of experiences for the young child provide a continuity in development from early childhood through the later school years? "The importance of an educational and social philosophy for deciding about such objectives and experiences cannot be overemphasized."[1]

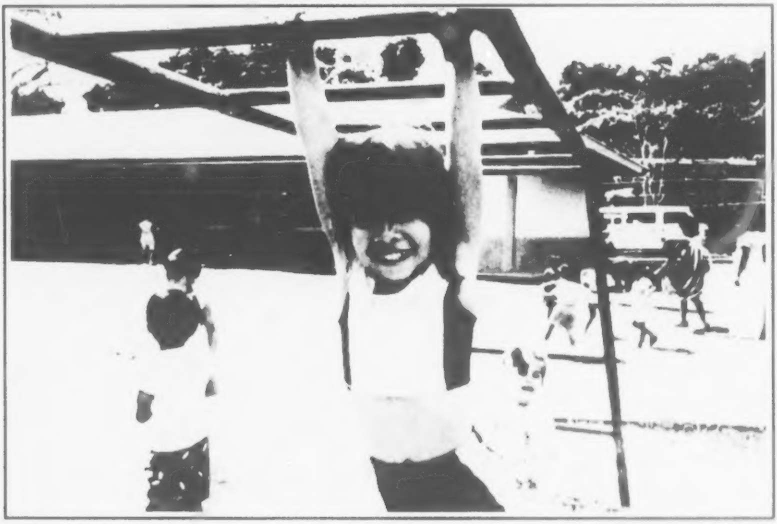
The educational philosophy of the Kamehameha Pre-Kindergarten Educational Program is guided by Vygotsky's theory on child development:[2] We cannot understand a child's development by a study of the individual alone, but must also examine the social world in which the individual develops.[3] This means that we need to think about the social situation of learning and the role that the family plays in a child's learning. Thus, like the Home Visiting Program and the Traveling Preschools, our Center-Based Preschools include parents and family and features of the culture from which our children come.

The Culture

The goal of preschool is not to "compensate" children for their home environment or any deficiencies in it; rather, the children's background and culture—what and how the children learn at home—are the firm basis for further learning in the preschools and for future school success. Aspects of traditional and contemporary Hawaiian culture are woven into our curriculum. Children learn Hawaiian social values by participating in them. They learn about *laulima*, for example, when teachers encourage them to help each other clean up a play area. The children learn Hawaiian songs; they might begin the school day with the song "*Aloha Kakahiaka* Means Good Morning to You." Teachers might use Hawaiian words for names of familiar objects, animals, people, or parts of the body. Learning "games" are often made from seeds, pods, roots, and leaves found in their environment. Parents and "aunties" and "uncles" from the community are encouraged to take part in the preschool day (see also Fink, "The Child as a Member of a Culture," this issue).

The Parents and Family

A parent's welcome in the classroom will help any child have a happy transition from parent/family-centered life to preschool life. The parents, in turn, will feel empowered as well as partly responsible for their child's successful mastery of the tasks set by the school; they can provide the continuity for learning between preschool and home. Thus, we encourage parents to participate in the classroom whenever possible. Some of our teachers ask parents



to help regularly in the classroom. Keiki Story Time, during which parents can observe different story reading styles and can read to the children themselves, is a favorite among parents and children (see Tanaka, this issue). Parents also are often recruited for the story retell activity (see Mistry et al., this issue).

Parents are given information about general topics—health care and how to get health-care services, child development, motivation, and discipline—and about specific topics—their child's curriculum and social events in the classroom. Parents are asked to participate on the Advisory Board for their preschool.

Curriculum Content

The goals of our instruction are traditional—fostering the children's development in the following areas: language and literacy, cognition, gross-motor and fine-motor coordination, socio-emotional adjustment, and health education. This separation of skills, however, is artificial. Just as parent involvement and cultural considerations are not separable from the rest of the curriculum, so are the skills not isolated, one from the other. Simply stated, our instructional philosophy is one of integration and contextualization: Several skills can be developed during one activity.

Language and Literacy

There is special emphasis in our preschool curriculum on the development of oral expression and literacy. Hawaiian children tend to have well developed visual thinking ability,[4] but tend to have difficulty with the kind of language required in school.[5]

Our philosophy is that every experience, at home or at school, is an opportunity for language and literacy development. Talking with children while they are building with blocks, while cooking, while looking through a book are only a few examples of experiences from which language and literacy develop. There are several activities, though, which we have designed specifically to give children the opportunity to express themselves informally with other children and with adults: listening to stories read by the teacher, a parent, or older child (see Herman, Levin, Ai-Chang, and McClellan, this issue); taking books home and searching out family members to read to them (see Tanaka, this issue); and describing pictures or telling stories to parents, aides, or teachers who write down their narrations for later rereading (see Mistry et al., this issue). Teachers may use a conversational approach to story reading (see Speidel and Kennedy, this issue) so that the children listen actively to stories and understand them better.

Integration of Curriculum

Our curriculum is organized around units or themes which grow from a focus on the child, to his family, to the community and the environment. The curriculum guide, still in development, describes activities for each theme and lists the curricular skill areas that can be developed through these activities.

A sample activity from the Child as a Person Unit is called Tracing Children's Bodies. The children lie down on large sheets of paper and the teacher traces their bodies. Then the children fill in the outline, drawing in facial features, and "dressing themselves." This activity with its extensions can foster a number of skills and concepts, such as language and literacy, cognition, fine-motor coordination, and socio-emotional adjustment. The activity and the discussion surrounding it let concepts about the self emerge. Filling in the features and the clothing develops fine-motor coordination required for holding a pencil or crayon. There is opportunity for much language development while the teacher talks with the children about the eyes, the mouth, the knees, and other parts of the body, or while she talks with them about clothes they have drawn on themselves. Cognitive and language development take place as they count the number of legs, arms, and fingers. Moreover, the activity allows for making comparisons between various characteristics among the children, such as height, hair length and color, and types of clothing. These comparisons can then be used for grouping and classification.

An extension of this activity to promote print awareness and writing is to have each child dictate a story about himself, his appearance, his family, and his likes and dislikes. Compiling all these stories into a book and reading from it to the whole class is enjoyable for all. Cultural extensions of the body-tracing activity are learning the Hawaiian names of major body parts and drawing traditional Hawaiian clothing.

Making a Raggedy Ann Salad is another activity that allows the development of different skills. It lends itself to sequencing—what do we have to do first, second, and so on. It requires fine-motor coordination. The instructions—put the peach half on top of the lettuce leaf, place one marshmallow at one end of the peach half for the head, place two celery strips at the sides and two at the bottom of the peach half for the arms and legs, and so forth—reinforce the names of the parts of the body, and teach positional words and labels for the fruits and vegetables used. If the teacher draws a picture of what the salad is to look like, she fosters the children's sense of pictorial and print representation.

In the unit on The Community, an excursion to Bishop Museum is suggested. Once again this activity, if conducted in a certain manner, can target most of the curriculum areas. Concepts that can be learned from such a visit are concepts of time—past, present, and future; objects in the natural and man-made world; differences in ways of living and earning a living. Discussion of the many items in the museum lends itself to vocabulary extension. Comparisons between utensils and clothes used by 19th century Hawaiians, the missionaries, and modern-day people expand verbal concepts and conceptual thinking.

While planning the excursion, the children can predict what they will be seeing. After the trip they can compare their predictions with what they experienced. Photographs of the trip—boarding the bus, arriving at the museum, looking at the whale skeleton, having a picnic—help the children recreate and narrate the sequence of events when back in the classroom. This excursion is filled with Hawaiian culture and traditions that can be expanded further by using Hawaiian names for the objects the children see and by reading Hawaiian stories and legends.

Conclusion

In a recent report to the Hawaii Business Roundtable, Berman, Izu, McClelland, and Stone recommended statewide early childhood education. Their recommendation was based on the finding that about half of the kindergarten students in the State had attended preschool or day care for a year or more and that "these children receive an early start that can make a great difference in their achievement in school, their motivation and their belief in themselves, and their prospects for life." The preliminary results from our own preschools support this conclusion. According to Heath and Plett,

> KS/BE preschools clearly do help Hawaiian children achieve higher test scores when they **enter** kindergarten and when they **complete** their kindergarten year in the public schools. . . . It is too early to tell if, or how long, the beneficial effects of KS/BE preschools will last as these children proceed through elementary and secondary schooling.[6]

They further conclude, "We now have evidence that KS/BE preschools give Hawaiian children an educational advantage over other children in the State. However, the challenge to develop preschools that put these children on par with national standards has yet to be met."[7]

In spite of all the benefits of preschool education, Thomas Kaser of *The Honolulu Star Bulletin* wrote in November 1988, "The state presently has no prekindergarten program except for one—in cooperation with the Kamehameha Schools."[8] Thus, there is a need in the State for more preschools. Currently there are 12 PREP classrooms with approximately 240 children most of whom are of Hawaiian ancestry. Some of these classrooms are operated in cooperation with the Department of Education and Kamehameha Schools. The expansion, therefore, is well under way.

Footnotes

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[5] Berman, P. J. Izu, R. McClelland, and P. Stone. *The Hawaii Plan —Educational Excellence for the Pacific area: Summary Recommendations to the Hawaii Business Roundtable.* Honolulu, Hawaii, November 1988.

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Children as Storytellers

When we ask children to tell stories or relate personal experiences to an interested listener, we give them the message that we value what they have to say.

Jayanthi Mistry
Mary Martini
Lila Salls
Patricia Perez

Parents and teachers have long known that young children's experiences with books have important influences on their literacy learning and their later school success. What makes intuitive sense has also been documented by research. Reviews of studies on children's experiences with book reading during the preschool years suggest a strong relationship to later school success.[1]

When we think of the advantages of reading to young children, we typically think of language and literacy skills. However, teachers and researchers also recognize that book reading may influence later school success by helping children learn narrative skills, that is, how to narrate or give lengthy explanations and reports.[2] Studies of preschool-aged children indicate that adult-child interactions around books and through told and retold stories help to develop skills that are later used in school, such as describing characters and summarizing events in stories.[3]

The Benefits of Story Reading on Children's Narrative Skills

In a study of how reading benefits children's narrative skills, Heath and Branscombe (1986) carefully documented the changes that took place in one child's skills once his mother started reading to him for just ten minutes daily from children's books.[4]

By the time he was three years old, this preschooler had learned how to start conversations about books or real-world events. He quickly learned how to tell well-organized stories and to describe and relate time-ordered accounts of events.

Not only do children learn narrative skills and conventions when they report events or tell stories, but our studies of the language experiences of the Kamehameha Pre-Kindergarten Educational Program's (PREP's) preschoolers at home and at school suggest that children also use more elaborate language in these situations.[5] The children used more elaborate language when they reported a past experience which was unfamiliar to the adult listener, when they invented stories, when they retold stories they had heard or films they had seen, when they speculated about future events, and when they explained wishes, motives, and plans.

Adult-Child Interaction during Narrative Activities

When children narrate personal experiences or tell stories, adults frequently make comments and ask questions that guide children to provide more elaborated information while maintaining the story line. They ask the child to identify characters, describe settings, and explain or clarify events. In a sense, the adult and child jointly construct the story or narrative. Michaels and Cazden (1986) emphasize the collaborative nature of conversations about narratives by calling them "collaborative exchanges" which they define as:

> connected stretches of discourse in which, jointly, teacher and child develop an elaborated set of ideas on a particular topic—as for example in giving a narrative account, summarizing information, describing an object, providing evidence, or giving an argument.[6]

Through the experience of jointly producing narratives with adults, the child learns about the elements that need to be described to a listener in order to narrate clear, coherent, and well-organized stories or descriptions of personal experiences. As the child gains practice and skill in spontaneously providing the information necessary to tell the story (i.e., clarifies the characters, setting, and events) there is less need for the adult to ask for this information. Thus, by participating in narrative activities with adults or more experienced peers, children gradually acquire some understanding of the conventions and structures of written text, and learn to produce explicit, well-organized "oral" texts.

Children as Storytellers in PREP Preschools

The emphasis of PREP's center-based program on language and literacy is not only to expose children to books and a print-rich environment, but also to provide opportunities for interactions with adults and peers around literacy-related activities. Some of these literacy activities are described in this issue by Herman, Levin, Ai-Chang, and McClellan; Tanaka; and Speidel and Kennedy. In this paper, we describe the storytelling activities that occur in our preschools,[7] through which children are provided opportunities to produce connected discourse at school and at home. All these storytelling activities have two important features:

1. There is a focus on extended and connected discourse. Children are asked to share some information at length, for example, retell a story, report personal experiences, or describe activities that are planned, ongoing, or just completed.

2. The adult's role is to serve as a "scribe," writing down the children's narrations to create a permanent record.[8] This feature provides a concrete demonstration of what writing can be used for. Perhaps more importantly, because the adult is writing down the message, the child spontaneously uses more book-like language. Also, children like to take a "product" home, just as they like taking home their art-work.

Narrative Activities in PREP Preschools

A few popular narrative activities are described below, along with samples of children's narrations.

Story Retelling

Children dictate a well-known story to an adult. Sometimes, especially during the early part of the year, a picture book or film-strip is used to prompt children through the story. At other times, children retell stories using props such as cardboard cutouts and felt-board pictures. Occasionally, they retell stories from memory without any props.

In many preschools, parents are recruited to serve as scribes for their children. When they check out books to take home and read to their children, they often take home story dictation blanks. After they read the book a number of times they ask their children to dictate the story back to them.

Narrations of Personal Experiences

Children enjoy narrating personal experiences. These experiences may be either a specific event, such as a fight with a friend or what they did on Halloween, or a routine activity, such as play interactions with friends or coming to school. These personal stories are elicited in many ways. Sometimes, children are asked, "What do you want me to write for you today?" At other times, they are asked to relate personal experiences around specific events, for example, "How did you celebrate Christmas and New Year?" "What was your favorite gift for Christmas?"

Preschool Scrapbooks

Scrapbooks that document special events and experiences, such as birthday and Christmas celebrations, Halloween, or field trips are a favorite among children, teachers, and parents alike. In some preschools, teachers make a special album for each child. On each page there is a photograph or momento of the event (e.g., name tag used on a field trip), accompanied by the child's dictated description. Often teachers include photographs of children engaged in a variety of class activities, such as making a fireman's hat prior to a field trip to a fire station, constructing a fire station in the block corner, or doing an art activity. Children explain what is happening in these photographs to adults who write down their observations. The descriptions of such photographs frequently lead to descriptions of related personal experiences. On these two pages are examples of dictated entries from a scrapbook.

Description of Ongoing Activities

As our preschool teachers circulate among the children in the different activity/learning centers, the teachers offer to write down children's descriptions and explanations of their ongoing activity. Art projects and products are the easiest to extend in this manner. For example, in one class children made Mother's Day cards which included four to five sentence long narrations that teachers elicited from children. The teachers used an open-ended sentence such as, "I love my mommy because. . . ." or "My mother is. . . . ," to get the child started. Here is an example of a dictated message:

To Mommy,

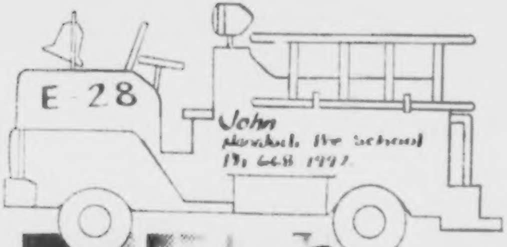
I love you for taking me to the Ice-Capade.

And thank you for taking me to Chuck E. Cheese, and letting me play all kinds of games.

I just love you so much, so so much! You are so good to me, even when you don't have money. I love you even though you grumble to me.

Love,
Nani

We were on the choo choo train. The engineer drove the choo choo train. We heard the bell go "dingalingalinga" The engineer let us walk through the choo choo train.



We was at the fire station. We had to walk there.

The fire fighter is telling us to shoot the garbage. We had to shoot out the Fire.

That's a fire fighter. He showing the mask and tank for breathe.

We were playing with the blocks. The toys was the firemen. The firemen were sleeping at the fire station. They got and jump on the truck, 'cause they were in a hurry.

The Ugly Duckling

The egg cracked and the ugly duckling came out.

They went out to swim.

Then the hen said he was ugly.

Then he was sleeping.

Then the geese teased him. They were laughing at him because he was ugly.

Then the dog wanted to bite him. But he didn't.

Then he flew away and he looked down, and he saw the house. He went and then the cat teased him and they said, "You're ugly."

They teased him again and said he was ugly.

Then he saw the swans.

Then the shoe cracked the ice—cause he was swimming and the water became ice and he got stuck. And the man took him home and the duckling dropped the milk.

Then the swan wants to fly. He was flying and he looked down and he saw the three swans.

He looked in the water and he saw himself. He was sad, cause he saw himself.

Then the two children wanted to carry the swan.

Figure 1. Malia's Story Told at the Beginning of the Year

Changes in Stories Dictated at the Beginning and End of the Preschool Year

Even a cursory comparison of individual children's narrations from early and late in the school year suggest that the children became better storytellers. They learned to express themselves more explicitly, to make logical connections in stories clearer to the listener, and to tell stories in a more coherent way by following many of the conventions of story structuring they had been exposed to through story reading and narrating activities. A few examples are given below to illustrate the gains.

In the first example, Figure 1 above, Malia dictated the story of *The Ugly Duckling* early in the preschool year as she was looking at the pictures of the book.

Malia's story contains some reference to each of the episodes represented by the pictures. However, her story is primarily a description of what is happening on each page, without making connections between the episodes and without making clear references to the characters. She also does not make the main theme of the story clear.

Below, Figure 2, is the story of *Curious George* which she dictated to her parents about six months later. This second story now has a clear story line to it. The episodes are described more completely and Malia uses many of the words and phrases of the book, such as "curious", "escaped", and "off they went." She clarifies the characters she refers to, such as saying, "George which was the man with the yellow hat." She provides a definite sense of closure for her story through her summation, "What a nice place for him to live." She constructs many complex sentences using appropriate logical connectives—"played with the phone but didn't know he called the fire station," though she does not always construct grammatically correct sentences.

Curious George

Curious George met a man with a yellow hat and was curious. He came down from the tree and put it on. George put the hat on but he couldn't see, and the man put him in a bag. The man told George he was take him to a big zoo.

Curious George seen the sea gulls flying and he tried to fly but fell in the water. The sailors helped George get out of the water. He told the sailors bye, and he went to the man's house with the yellow hat. He ate and a good pipe and went to sleep.

Curious George played with the phone but didn't know he called the fire station. The firemens took George and put him in prison for playing with the phone. He went escaped from the prison, he ran through the door and was free.

George was so curious about the balloons and flew away with the whole bunch. He went flying but then went down on the stop light and heard someone called George, which was the man with the yellow hat.

George was very happy and so was the man with the yellow hat. So he paid the man for the balloons. George and the man went in the car, and off they went to the zoo. What a nice place for him to live.

Figure 2. Malia's Story About Six Months Later

Another pair of stories, dictated by Robert at the beginning and the end of the preschool year, reflect similar changes. Like Malia's story that was dictated early in the preschool year, Robert's story of *The Ugly Duckling* reads even more like a disconnected description of the pictures in the book. By the end of the year, however, he has made impressive gains in a story, *The Crocodile, Little Girl, Hat, and Monkey*, which he retold to his parents.

In his end-of-the-year story, Robert retells a story he heard in class from a visiting storyteller. The story was a Philippine folk tale, unfamiliar to the children and teachers. Briefly, the story is about a little girl who saves a crocodile that was tied to a tree by a hunter. Instead of expressing gratitude, the crocodile tries to eat her. She asks a hat floating on the river about the fairness of the situation, but the hat is not helpful. Then she asks a monkey on the riverbank whether the crocodile's actions are fair. In response, the monkey saves her.

This retelling is particularly impressive because Robert includes most of the story episodes and elements, even though he heard the story only once, five days before he dictated it to his parent. He did not understand some of the nuances of the story, but interprets them in his own way and includes them in his story. He follows many story telling conventions, for example, the use of dialogue. His picture of this story depicts not only all of the characters but also features of the setting, such as the crocodile hanging down, the girl in the water, the hat floating on the water, and the monkey on a banana tree.

The Ugly Duckling

The egg cracks and the duckling comes out. The chicken laugh at the duckling because the duckling is ugly. They go in the water.

The lady kicks the duckling. He feels sad.

The doggy likes the duck.

The duckling runs to the house. The ugly duckling eats.

The water turns to ice. The man broke the ice and he picked the duckling and he took him home.

The children were chasing him. The ugly duckling spilled the milk.

He went to the water. He looked inside the water. He saw a swan.

Figure 3. Robert's Story at the Beginning of the Year

The Crocodile, Little Girl, Hat and Monkey

The stranger hung the crocodile on a tree. The little girl saw the crocodile hanging in the tree. She untied the rope and the crocodile fell down.

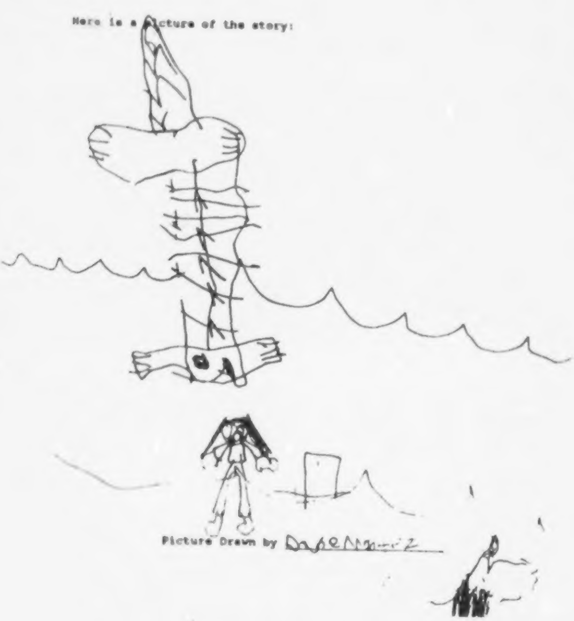
The little girl went swimming. Then the crocodile went swimming too, and was trying to catch the girl. The crocodile went underneath the little girl. The little girl was scared of the crocodile.

The girl came out of the water and she saw a hat in the water. The crocodile said to the hat, "Come hat." The hat turned and went to the crocodile. The little girl asked the hat, "Hat, why is crocodile chasing me?" The Hat said, "I don't know."

Then they all saw a baby monkey stuck in a banana tree. The little girl said to the monkey, "Why is crocodile chasing me, little monkey?" The monkey said, "I don't know."

The little monkey put the little girl in the banana tree. Then the monkey punched the crocodile and the crocodile swam away in the water. Then the little girl and the little monkey were friends. The End.

Figure 4. Robert's Story at the End of the Year


Here is a picture of the story:
Picture Drawn by

Summary

When we give children the opportunity to relate personal experiences or to tell stories to an interested listener, we give them the message that we value what they have to say. This encourages their desire to talk to us at length, and thereby gives them valuable practice in expressing themselves explicitly and in relating personal experiences, descriptions, and stories in a coherent and cohesive manner.

Footnotes

[1] Goldfield, B. and C.E. Snow. "Reading books with children: The mechanics of parental influence on children's reading achievement" in *Understanding Reading Comprehension*, J. Flood, ed., Newark, D.E.: International Reading Association, 1984.

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[7] Many of these activities were initially developed and implemented by two PREP teachers (also co-authors of this paper), Pat Perez at Nānāikapono Preschool and Lila Salls at Nānākuli Preschool. These teachers generated ideas for specific story-telling or narration activities that fit into their current thematic units.

[8] Children's narrations are recorded either verbatim (that is, often in pidgin English) or are transformed into standard American English. While we are aware of the controversy surrounding this issue, we felt it was important for adult scribes (be it teachers or parents) to use the strategy they and the children felt comfortable with.

Conversations During Story Reading

Conversational story reading is an effective way to develop preschoolers' language and comprehension of story content.

Gisela E. Speidel
MaryLou Kennedy

Eve: *That?*
Mother: *What is that? That 's Mr. Fraser. There, drink the water.*
Eve: *Fraser water?*
Mother: *No, I don't think Mr. Fraser wants any water. Mr. Fraser has coffee. Mr. Fraser's drinking coffee.*
Eve: *That?*
Mother: *What is that? Coffee.*
Eve: *Coffee.*
Mother: *Yes, he's drinking his coffee.*[1]

In conversations like this one, little 18-month-old Eve learns to speak. She learns labels for the things around her and people's names. She learns about asking questions and about speaking in sentences. Observations of toddlers like Eve have shown that much of what children learn about language, they learn when mothers, fathers, or other adults talk with them about things that interest them.[2]

Conversations between parents and preschool-aged children can also occur while they look at a picture book or read a story together.[3] Such conversations have been found to accelerate the development of language skills in young children.[4] Moreover, conversations occurring while parents read stories to their young children may also promote early reading. In a study of children who learned to read early, it was found that the style of reading to the child was more important in teaching a child to read than the nature of the book.[5] "Scaffolding dialogues in which parents constructed prereading, during-reading, and postreading questions preceded or facilitated meaning of the printed word," concluded another study of early readers.[6] The parent-child roles during such dialogues shifted as the children became more familiar with story reading. Parents reported that their "early readers asked many prereading and during-reading questions. . . . Not only did these children ask, but they answered, carrying on a running 'dialogue' with themselves."[7] In other words, such conversations can lead to internalized strategies children use to understand stories when later they read on their own.

Story reading is a favorite and frequent activity in preschool classrooms. However, as preschoolers are often instructed in larger groups, the tendency is to read stories to them without any dialogue or conversation. Nevertheless, a fitting way to develop preschoolers' language and literacy skills would seem to be conversational story reading. In conversational story reading, the teacher talks with the children about the story while reading it and asks open-ended questions to engage the children in talk, to check their comprehension, to have them predict what might happen, and to get them to share experiences and feelings about the events in the story. The children in turn are free to ask the teacher about things they want to know. In sum, conversations during story reading to very young children have two intertwined functions: language development and comprehension of story content. For elementary school-aged Hawaiian children, we have found that dialogues in preparation for, during, and after reading helped students to understand the stories better[8] and promoted language development.[9] To confirm whether conversational story reading facilitates comprehension and remembering of stories in our preschoolers, we conducted a study.

The Study

The children were enrolled in a preschool of the Kamehameha Pre-Kindergarten Educational Program. Two groups of children (one with five children, the other with six), were read two stories, *The Bear's Toothache* and *Just Me and My Dad*. One of the groups heard *The Bear's Toothache* in a traditional story reading approach, without discussion, and *Just Me and My Dad* in a conversational approach. For the other group, the story reading approaches were reversed.

At the end of each story reading, the children were asked identical broad comprehension questions about the story to see what they had understood. These broad questions were then followed by more specific questions, to help cue the children's recall. All children did better in the conversational story situation. They were able to answer, on the average, one-third more questions correctly than in the traditional story situation.[10]

Conversational Story Reading: An Example

We did not do a systematic study of language development resulting from the conversations during story reading. We did, however, analyze the transcript below, taken from a reading of *The Bear's Toothache*, to show the potential for language learning during the telling and discussion of a story. This transcript shows how the teacher must be constantly aware of concepts and words that are unfamiliar to the children. She must also be resourceful in giving clues so the children can grasp the meaning of those words and concepts, since many word meanings and grammatical constructions that adults understand automatically and effortlessly are not understood by the children.

The teacher (T) begins the story reading by asking:

What is a toothache?	The teacher tries to find out what the children know about toothaches, a concept central to the story. The children do not answer.
What do you think a toothache is?	The teacher restates the question but the children still do not answer.
What happens when you have a toothache?	She rephrases her question, but still receives no answer.
T: *James might tell us what a toothache is? What happened to your tooth when you had a toothache?*	She turns to James, whose recent toothache all the children had noticed. By calling on him, she helps them understand what a toothache is and feels like.
James: *Broke it.*	
T: *Yes, your tooth might have been broken, and it felt very, what?*	She extends James's answer into a sentence, and by using the word *tooth*, clarifies what broke. In order to have the children understand how a broken tooth might feel, she asks James how his felt.

James: *Sore.*	The word *sore* probably has meaning for all children—a sensation that they can now associate with a toothache.

The teacher leads a discussion about going to the dentist and what kind of work dentists do. Then she shows them the picture on the cover of the story. She begins to read the story:

T: *"One night I heard something outside my window."*	
T: *Who do you think heard something outside his window?*	She checks whether the children understood this sentence.
Keola: *The bear.*	The children did misunderstand.
Mele: *The bear.*	
T: *Who do you think heard something out there?*	She repeats the question, now emphasizing the critical clue.
Chris: *The bear.* Mele: *A bear.*	The children still do not understand the question.
T: *Someone heard the bear, but who heard the bear?*	Rather than giving the answer herself, she puts their answer into her question? This gives them the clue that the bear did not do the hearing, but someone else.
James: *The kid.*	James's answer shows that the teacher's clues were helpful.
Chris: *The people.*	

The teacher continues reading the story and periodically checks the children's comprehension of what she has read.

T: *What was the boy doing?*	
Dana: *Sleeping.*	
T: *The boy was sleeping when he heard the bear outside.*	By extending and elaborating Dana's one word answer, the teacher gives her feedback that her answer was right. At the same time, she shows Dana how her ideas could be expanded. This is a common strategy used by parents of young children.

A little further in the story:

T: *"When I found the one that ached, I tried to pull it out."*	She makes a motion as if pulling out a tooth, thereby showing what the little boy was trying to do to the bear's tooth.
Do you think it'll come out?	She asks the children to predict what will happen. This helps them understand what the boy was trying to do.
"It wouldn't budge."	
T: *What does that mean, "It wouldn't budge?"*	She checks whether they understand the meaning of *budge*.
Dana: *Come out.*	Dana's answer is ambiguous: it could either mean that *budge* means to come out or not come out.
T: *It wouldn't come out.*	She accepts Dana's answer. By putting Dana's phrase into a sentence, she makes sure there is no is no misunderstanding.

T: *"'Maybe some steak will loosen it a little,' said the bear. So we went down into the kitchen, where the bear chewed on some steak and anything else he could find."*	
So what were they going to try to do?	She focuses the children on the problem and checks their comprehension.
James: *Cut it out.*	James has only a vague idea.
T: *Is that what the bear said, they were gonna cut it out? "Maybe some steak will loosen it."*	She models for James how to put his idea into a sentence. To help them understand, she repeats the sentence that contains the answer.
What's steak?	It begins to dawn on her that the children may not know what steak is, an important concept for understanding what is happening in the story.
Have you ever eaten some steak?	She gives a clue that steak is something to eat.
Children: *Food.*	The children pick up on the clue and come up with the right category—food.
T: *It's food.* *What kind of food is steak?*	She accepts the answer, extends it into a sentence, and then asks for more specific information.
Mele: *White.*	The children do not seem to know what kind of food steak is.
T: *Is it candy?*	
Children: *Yeah.*	

T: *What if your mommy said, "We're gonna have steak for dinner." What is that? What kind of food is it?*	She draws upon their experiences at home to help the children retrieve the concept from their memories. This is a strategy that frequently works. But in this case, the children do not seem to know about steak.
Steak is meat—a big piece of meat.	She provides a description of steak. Whether the children now understand what steak is, is not certain, but it is the best explanation that she can give at the moment.
So the boy thought that maybe steak would loosen it. So he was gonna have the bear (makes chewing motion). . .?	She repeats the idea described in the text in order to focus again on the problem. Hindsight suggests that saying something more specific might have given the children more clues. For example, she might have said, "Chewing tough steak would loosen the tooth. Chewing steak would make the tooth come out."
Children: *Eat it.*	

Conclusion

The findings from the comprehension tests in our study suggest that conversational story reading does promote story comprehension in Hawaiian preschoolers. Clearly, we would need to replicate the study with more students and a range of story selections before advocating it widely. Yet, given the accumulated knowledge from many studies of how children learn language during conversations, this form of story reading promises to be a powerful way of developing in preschoolers the language and the understanding of the concepts in a story.

Footnotes

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When Older Children Read to Younger Children

As older and younger children read together, they share an experience that contributes to language and literacy development.

Hannah S. Herman
Paula F. Levin
Michelle Ai-Chang
J. Mahealani McClellan

Considerable evidence exists that reading stories to young children is an effective way to promote early literacy skills and general language development.[1] Storybook reading traditionally has been part of the preschool environment, typically organized with teachers reading to large groups of children. Storybook reading on a one-to-one or small group basis, however, provides opportunities for language development that do not exist in large group settings. The intimate arrangement of a reader and one or two children encourages children to react spontaneously and to ask questions that relate to their special interests. The reader in turn has more opportunities to respond sensitively to the reactions of individual children. Moreover, this setting fosters rich conversational exchange in which reader and listener share experiences around the story. Although readers to young children tend to be adults, older children can perform this function effectively, with benefits accruing to both the student reader and the student listener.[2]

Research with Hawaiian families whose children were attending Kamehameha preschools at the time has shown that older children frequently share responsibility in the caregiving of younger siblings.[3] One aspect of this caregiving is story reading. Parents report that older siblings often read to the preschooler in the family. A study of the social networks of Hawaiian preschoolers has found that older children comprise about one-third of the people who regularly read to preschoolers.[4] Having older children read to preschoolers in the classroom thus appears to be a culturally appropriate extension of the social interaction patterns that typically take place among Hawaiian families.

Implementing Cross-Age Reading

To see how this idea of cross-age reading might be incorporated into the preschool curriculum, we introduced the cross-age reading experience (CARE) project, in which upper elementary school children regularly read to preschoolers participating in the Kamehameha Pre-Kindergarten Educational Program (PREP). CARE took on slightly different forms at the four participating preschools, due to differences in elementary and preschool teachers' schedules and preferences.[5] Sessions at most sites took place once a week. In one classroom a different group of five readers came every day to read to five children. At this site the reading pairs read together outdoors while the rest of the children were engaged in their normal morning routines in the classroom. At the other sites either a half or the entire upper elementary class read to a preschool classroom on a one-to-one or one-to-two basis. Across sites, each preschooler was read to by an older child for approximately 15-20 minutes per week. The grade level of the readers ranged from fourth to sixth grade.

Block
Area
Tyler

To introduce the project and to provide reading guidelines, the preschool teacher and PREP staff met with the readers prior to their first session with the preschoolers. For sites starting the project later in the year, potential readers viewed a videotape prepared by PREP staff which showed older and younger children reading together and included guidelines for reading aloud.

The books were selected either by the preschooler from a collection made available by the preschool teacher or were chosen in advance by the older child from the school library or from a set of books put together by their classroom teacher. Sometimes the story reader brought one book and the younger child selected one book. Where possible, a session with the school librarian was incorporated into the program. The librarians instructed the older children in general principles of reading aloud to young children and provided guidelines for the selection of age-appropriate books. The older children were encouraged to recall their own favorite books and to read those whenever possible. Occasionally readers brought their personal books to share with the preschoolers.

Informal observations and review of videotapes of these reading sessions suggest that the readers became more competent as the year progressed and that the preschoolers clearly enjoyed the attention and friendship of the older children. Cross-age reading not only provided the opportunity to develop the reading skills of the older children and the literacy awareness of the younger children, but it also helped to promote a social relationship between older and younger students. The specific benefits of the project to the overall literacy development of the preschoolers cannot be assessed directly, because of the many other preschool activities the children experienced. However, exposure to books at early ages has consistently been shown by other studies to be an important contributor to later literacy development.[6]

Students' Views on Reading to Preschoolers

At the end of the school year, some of the readers from all classes were interviewed and all participants completed a questionnaire to assess their experiences with the program. Students were asked to report on what they liked and did not like about the program and to provide suggestions to future readers. Eighty percent of the readers found it easy to read aloud to young children. This was already the case at the beginning of the project and may be due to the fact that three-quarters of the readers said that they read at home to younger siblings or other relatives. On the average the readers had two younger children living with them at home; therefore, most readers had a built-in opportunity to read aloud to a younger child and apparently did so. Ninety-five percent of the readers reported that they themselves had been read to when they were younger.

More than one-third of the students said that the most satisfying aspect of the project was the positive social interaction with the preschoolers. Readers liked the younger children and enjoyed talking with them. Another third of the readers were impressed that the preschoolers enjoyed being read to. The importance of the social aspect of the project to the readers is reflected by a sample of representative comments:

> "I like when you go inside the classroom, they always say like, 'Oh yeah, they're here!'"
>
> "They were fun. It's like teaching a whole new thing, a whole new child."
>
> "I like reading to the little kids because they're kind of fun to be with and instead of just making the book boring you can enjoy it too while you're reading it."
>
> "They get so happy, then they go home and tell their mom."

Readers frequently mentioned that they enjoyed the sessions because the books were easy and there was no pressure in reading to the young children. Interestingly, from our end-of-the-year interviews with the readers, our impression was that the less skilled readers benefited the most from the cross-age reading experience. This was corroborated by their teachers' comments. The opportunity to read in a situation that was nonjudgmental undoubtedly provided the poorer readers with a sense of reading competence not normally experienced in their classroom reading activities. This is reflected in some of their poignant comments.

> "They don't give you destructive comments."
>
> "They don't grumble about your reading."
>
> "With older people I'm under pressure 'cause if I say something wrong they just might say something. But with preschoolers I'm not under pressure."
>
> "It's easy to make mistakes and they won't laugh."
>
> "You don't get hard books to read and it's fun."
>
> "They don't know when you make a mistake."

The readers' understanding of the demands of reading to preschoolers and their feelings of expertise are nicely illustrated by their suggestions to future readers:

> "If the book is boring, ask questions."
>
> "If the paragraph is too long, improvise."
>
> "Ask questions and stuff like that. If you don't ask questions and stuff they'll just drift away and look at someone else."
>
> "Make the book interesting. I made it funny."
>
> "Talk with feeling."
>
> "Pick a book with lots of pictures and big words."
>
> "When you have two books to read hide one while you are reading the other one."
>
> "Be calm, gentle, and don't be shy—they won't bite."

The problems that the readers found most difficult to handle involved behavioral control and maintaining the attention of the children:

> "They didn't pay attention sometimes. They looked away and they looked at other people and they started talking to other children and they didn't listen to what the story was about."

Teachers' Views of Cross-Age Reading

Interviews with the upper elementary and preschool teachers pointed to some factors that affect the success of a cross-age reading project. Although a number of preschool teachers expressed some concern about the skill level of readers and their lack of expertise in behavioral control, they consistently reported that the young children looked forward to the visits from their older friends. One teacher summarized the benefits of the program from her point of view:

> I really liked the idea that sixth graders would be willing to come and read to our children.

> Many of our children don't have older siblings, and this was a new experience for them, to meet older children in a really comfortable situation where it was nonthreatening and everybody was nice to each other. . . . I liked the idea of our children having so many stories read to them. Because with all the books that we have available to us, it's impossible for us to read that many books to our children. And the different styles of reading . . . we tried not to keep them with the same person so they could get an idea of different styles of reading.
>
> A teacher never really has time to read to one child or two children alone. This was a nice time for our children to have that attention and to have that private time with someone besides the teacher, with someone who is interested in them and wanting to work with them.

Another preschool teacher summarized her reactions in this way:

> The children got to hear more stories—they formed friendships and felt important because someone that age was interested in them.

The teachers of the readers reported that generally their students were enthusiastic about the project and that a number of the children benefited greatly. Specifically, their impressions were that participation in the project helped boost the self-esteem of their students. Teachers also noted that their students were more likely to comment about their social interactions with the preschoolers than about the reading experience per se. One sixth grade teacher commented:

> Being in the teacher role was beneficial to students. They felt responsible for the preschoolers. I could see their confidence grow as they became more comfortable reading to a younger child. Students gained insight into what a teacher goes through.

Teaching Children to Read Aloud

Several recommendations for future implementation emerge from our experience with cross-age reading. It is not enough simply to ask older children to read stories to younger ones. Children who have trouble with reading need to practice reading the story aloud. Moreover, all readers need to be given some guidelines for reading to young children. The videotape that we made and used for training our readers shows older and younger children reading together and includes the following suggestions:

1. Practice reading the story to your friends and relatives until you are familiar with it.
2. Introduce the story—tell your listener what the story is about.

3. Make sure your listener can see the pictures and words as you read.

4. Read slowly and with expression—it makes the story more interesting.

5. Encourage the child to participate—ask questions and respond to the child's comments.

6. Look at your listener from time to time—this helps maintain the child's interest and regains the attention of a child who is restless.

7. Discuss the story afterwards. You may even want to read the story again.

Our teachers have supplemented the videotape in different ways. Throughout the school year one teacher had her students practice reading aloud. Another teacher also regularly worked on reading aloud strategies and held practice sessions in which she played the role of the preschooler and modeled question-asking behavior.

Making Cross-Age Reading Work

The implementation of cross-age reading can accommodate the needs and circumstances unique to each setting and can be adapted to differences in upper elementary and preschool teachers' schedules and preferences. Two specific suggestions, however, are that the reading sessions last about 15 to 20 minutes and that each preschooler is read to at least once a week in order to develop a routine.

Teachers can enhance the quality of the cross-age reading experience by promoting the social relationships between readers and preschoolers. For instance, in some schools readers hosted a Christmas party for the preschoolers; other readers made bookmarks for the preschoolers as an end-of-the-year gift.

Based on our observations of the reading sessions and our interviews with teachers and readers, we have concluded that the following factors contribute to the overall success of cross-age reading: (a) preschool and upper elementary school teachers who are committed and believe cross-age reading to be of benefit to their children; (b) frequent and open communication between the elementary and preschool teachers; (c) adequate preparation and ongoing training of readers (e.g., practice reading sessions, training videotapes), depending upon the skill levels of the readers; (d) teacher monitoring of reading sessions; and (e) a wide selection of readily available books for the older readers to use.

Cross-age reading is a classroom activity that is flexible, easy to implement, and exciting for all participants. Importantly, cross-age story reading contributes to the overall language and literacy development of both the younger and the older child.

Footnotes

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Parents and Literacy: The Home-School Linkage

The Keiki Book Bag Project actively involves parents in reading to their children and developing in them a love for books and stories.

Masako Tanaka

You may have tangible wealth untold
Caskets of jewels and coffers of gold.
Richer than I you can never be—
I had a Mother who read to me.[1]

Books are treasure chests filled with adventures and pictures about life and the world. By listening to stories, children learn a wealth of information. They also learn the language of stories, and they begin to develop a love of books that can turn into self-sustained learning.

The poignant words above by Strickland Gillilan show how important parents are in fostering a love of reading in their children. This has been verified by many research efforts,[2] starting with the classic study of early readers by Dorothy Durkin.[3] According to these studies, it is important to provide a "print-rich" environment in the home where there are not only many varieties of printed materials, but adults who read regularly to themselves and their children.[4] The printed materials should include a wide selection of favorite picture storybooks that are read repeatedly until the child zooms through it with joyous familiarity.[5] Above all, the parent who provides a warm, loving setting for the story-reading session ensures that the child will associate reading with pleasure.[6]

The Keiki Book Bag Project

The Keiki Book Bag Project of the Kamehameha Pre-Kindergarten Educational Program (PREP) began in order to help parents in our preschools provide a print-rich environment for their children and instill in them a love for books. The project provides two copies of 100 different books for each preschool classroom. The books are available for children to browse through to see what they might want to take home. The children are encouraged to borrow at least one book each week, and the parents are asked to read the books with their children. Through the Book Bag Project, the children hopefully will come to enjoy listening to stories and begin their love affair with books. Listening to stories, moreover, encourages language learning and introduces standard English in a meaningful, pleasurable way.

Parents and teachers are pleased with the project. The only "negative" comments have been such parental complaints as: "My kid wants me to read all the time" or "Now all my other kids want to listen, too!" Perhaps the most "countable" results are seen in the number of books circulated, the number of times books were read, and the number of replacements needed. The children borrowed at least one book every week. At the end of one seven-week sample period, each classroom with 20 children had lent out between 152 and 284 books, or between 7.6 and 10.4 books per child. (Some teachers allowed children to borrow more than one book at a time.) The average number of book-reading sessions reported by each parent during that period ranged from 38 to 74. This project is therefore an effective way of getting books into homes and of having parents or others in the family read to the preschooler.

Several aspects which have helped to make this project effective are (a) selecting appropriate books, (b) developing a system of borrowing books, and (c) encouraging frequent and beneficial use of the books.

Book Selection

The books need to be selected carefully with several considerations kept in mind. Books should deal with a variety of topics, experiences, and settings ranging from familiar to unfamiliar. For children who have not listened much to stories, books on somewhat familiar topics would seem appropriate. Yet, as books should also enrich and broaden the children's experience and concepts, the books selected need to bring to the child a wide range of experiences, some of which they may never encounter in their daily lives.

If story reading is to enhance the children's vocabulary and grammar, then books must be checked for appropriate grammatical usage and vocabulary. The stories should have sentence structures and vocabulary that will stretch the children's skills and knowledge. Yet, the meanings should be readily understandable through the context of the story and the pictures. Books written in rhymes or with a rhythm make for great variation.

The illustrations in a book should be such that they help children understand the concepts in the book. They must be clear and relevant because preschoolers "read" pictures rather than words. Including different cultural styles of artwork helps to broaden children's horizons and may stimulate discussion. For example, in our collection, the bold and bright artwork in *Kama-pua'a* (a Hawaiian legend) is quite different from the delicate water color paintings in *Liang and The Magic Paintbrush*.

The length of the stories is a further consideration. Short books are suitable for the short attention span of preschoolers, but longer books help to stretch children's ability to listen and attend. Reading a longer story over two or three days provides an opportunity to elicit recall of earlier sections as well as predictions for the next section. With some of the longer books, we include suggestions for the readers on how to read the stories over three to four sessions.

Our collection does not include books that teach "school readiness" concepts directly; that is, there are no books on color, numbers, or the alphabet. However, there are books such as *Mr. Rabbit and the Lovely Present*, a story about a little girl that wants some help on choosing a birthday present for her mother. Since her mother likes different colors, there is a lively discussion of what is red, what is blue, and so forth. The outcome is a lovely basket of fruit, each of a different color.

A System for Borrowing the Books

The lending of books to four-year-olds is a tricky matter. How can one ensure a safe "round trip" for the books between the classroom and the home? Our response to this concern was the development of a system from which the project got its name: The Keiki Book Bag. At the beginning of the school year, each child gets a fabric bag on the front of which is printed the charming Keiki Book Bag logo of a boy and girl reading a book together (the same logo as on the cover of

this journal). The bag has double handles so that it can be hung over a convenient door knob at home whenever the books are not in use. This mode of borrowing the books has been highly successful. During our first year only three books were damaged or lost per classroom on the average.

A classroom record-keeping system is also helpful. A record sheet is kept in each Keiki Book Bag on which parents record the dates and the titles of books checked out and tally the number of times they read each book to their child. We find this information helpful in analyzing which books are popular and how often the child is actually read to. A classroom record sheet keeps track of which books are taken home by each child. Different weeks are color coded so that teachers can use this information for planning small group discussions and extensions of the stories.

Encouraging Use of the Books

In order to encourage parents or other family members to use the Keiki Book Bag Collection more effectively, we have developed a number of events and activities.

Parent Orientation Meetings

At the beginning of the school-year, information on the Keiki Book Bag Project is presented to parents. Samples of books and book bags are shown. Family support and participation are stressed. Parents are asked to read to their children every night and to keep track of how often each book is read.

Library Workshops

Members of the PREP staff work with librarians from the community libraries to hold workshops for parents on how to select children's books and how to read stories to children. The film, *The Importance of Parental Reading*, can also be shown. Some workshops show parents how to make their own books for their child using laminating, book binding, and button making machines. Workshops held during the day are scheduled so that they coincide with library visits of the children; parents come early for their workshops and stay to watch the librarian tell a story to their children.

Keiki Story Time

During weekly Keiki Story Time different staff members read or tell stories. On those days parents bring their children 15 minutes before the official preschool day begins. Then they sit on mats with the little ones on their laps as they listen to the story together. After the group story reading, the parents read a story to their own children. The Keiki Story Time lets parents see many story-telling styles, some of which they may wish to try out at home with their children.

Parent Workshops

During informal workshops, parents discuss with a staff member what they think of the contents of the books and how they use them. The parents talk about their child's favorite stories and why their child likes a particular book. Their responses are written on a large newsprint pad for all to see and are used to guide the discussion that follows. For example, a parent may mention that her child's favorite book is *Jack and the Beanstalk*, because of the pictures. This can then lead into a discussion of why pictures are important to preschool-aged children. Some of the discussions that we have had with parents are listed in Table 1.

Table 1

Book Title	Reason Child Likes It	Discussion Topics
Jack and The Beanstalk	Liked pictures.	Why are pictures important to preschool children? (Children "read" pictures rather than words.)
Just Like Daddy	Surprise ending. "Humorous."	What is humor in children's literature? What sorts of things do preschool children think are funny?
Happy Birthday Moon	Good story.	What is a good story for four year olds?
Gingerbread Man	Liked prediction, repetition.	How can children participate in story reading? How can this technique be used in other stories?
Curious George	Could identify with main character—"she" (the child) just like *Curious George*.	Why is it important to be able to identify with a character? Why do children enjoy stories about characters with problems, such as fear of the dark, need for a blanket, or having baby sisters and brothers?

During these workshops parents can give other feedback. One problem they sometimes voice is, "I don't like to read that story. It takes too long!" Dividing longer stories into several story-reading sessions is then a useful strategy. Other concerns voiced by the parents in such workshops may be, "Why do I need to read the same story over and over?" "My kid wants me to read to him *all* the time!" Or, "Don't let him take the same book out again—I'm tired of reading it already!" In response to these parent concerns, we try to promote a more favorable attitude towards reading by providing information on the importance of reading to children. For example, we talk about how stories teach vocabulary, grammar, concepts, and cognitive skills such as sequencing, prediction, and recall. We also suggest techniques and activities such as Story Retelling (see below) to extend and enrich the story-reading experience for both parent and child.

Story Retelling

For parent and child to enjoy reading stories together, the child must be an active participant. Talking about the story, asking questions, or having the child retell the story allows the child to practice language and helps to vary the story-reading experience for the parent. One technique we suggest to make story time more fun is Story Retelling (See Mistry et al., this issue).

We introduce this technique to parents by sending home a story their child has retold to one of the preschool staff. Shortly thereafter, parents are sent a newsletter, encouraging them to have their child retell a story and to write it down:

> *Last month, Auntie Michelle and I asked your children to retell some of the stories in the Keiki Book Bag Collection. We wrote down their stories and sent a copy home to you.*
>
> *As we all know, children learn language by listening and by talking, but they often understand a lot more words than they can say. Please try some of the following activities to encourage your child's "talking" language:*
>
> *(1) After reading a book several times, ask your child to "read" it back to you, by looking at the pages. Write down what he/she says.*
>
> *(2) After reading a book several times, ask your child to retell the story without looking at each page. Write down what he/she says.*
>
> *(3) Ask your child to tell you their own story about what happened during the day at school or at home. Write down the child's story.*
>
> *Please share these stories with us. I am enclosing 2 sheets of special carbon paper to use in writing down their stories. Please give the carbon copies of your child's story to your child's teacher.*

The parents enjoy this activity; any problems, such as the child's story telling getting too long or too

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repetitive, are discussed at the parent workshops. Most of the stories they send us have been retold while the child was looking at the pictures in the book. But a few parents send in all three types of stories. Here is an example of a child doing all three kinds of story retellings.

While looking at the book, *Ernest and Celestine's Picnic*,[7] Noelani retold the story as follows:

Ernest and Celestine's Picnic
(Vincent, 1982)

Text of the book	Noelani, age 4
There, Celestine. Honey sandwiches for me and cheese sandwiches for you. Everything is ready for our picnic tomorrow.	*I'm having honey sandwiches and you're having cheese sandwiches.*
It's going to be the best picnic ever.	
I'll put everything together, Ernest.	
Hurray! We're going on a picnic! I'll see you when we get home, Gideon. Here I come, Ernest.	*Bye Gideon! See you when we come back.*
But, Celestine, we can't go. It's pouring.	*No it's pouring - she's sad.*
Please, Celestine, be sensible.	
All right, Celestine, I have an idea. Shall we pretend the sun is shining? Oh, what a beautiful morning.	*Celestine, I have a good idea and off they went and they packed their bag and then they went.*
Hats are good for sun and rain, aren't they, Ernest?	
Really, Ernest, can't you see it's raining?	*A friend said "Can't you see it's pouring?"*
Don't be silly. It's a lovely day.	*It's a lovely day.*
Here's a good place, Ernest.	*Here's a good place to camp.*

A perfect picnic spot! And a perfect picnic, Ernest.	*And then they eat their sandwiches.*
Listen, Celestine, someone's coming.	*Celestine do you hear somebody?*
What are you doing here? This is private property. We didn't mean to trespass. Do you want us to leave? Well, it's all right just this once, I suppose.	*You guys not suppose to be camping here, it's—property.*
Wait a minute. Won't you have a cup of tea with us?	*Wait do you want to drink some tea with us?*
And so, we decided to pretend the sun was shining....	*So they pretend the sun was shining.*
I visited you in your tent, now you must come to my house with me.	*You let me come in your tent so come to my house.*
And next week, if it's sunny, we'll all have a picnic outside together!	*If it's sunny we're going to have a picnic outside. The End!*

As shown above, Noelani retold her story in a way that closely approximated the text of the book. At the same time, because this is a picture book in which much of the story is carried by the illustrations, Noelani's version of the story also shows an awareness of the need to include information provided by the pictures. For example, the text, "Really Ernest, can't you see it's raining?" is restated as "A friend said, 'Can't you see it's pouring?'" to take into account the speaker who has just entered the story. Again, when the text states, "And a perfect picnic, Ernest," Noelani restates this as, "And then they eat their sandwiches," thus providing a description of the action in the accompanying illustration.

When Noelani's mother asked her to tell the story without looking at the book, she narrated the following:

> *The guy said, You cannot come there because it's—property."*
>
> *And then Ernest went, "Do you want to drink tea with us?"*
>
> *Then they made pretend the sun was shining.*
>
> *Then their friend said, "You let me in your tent now come to my house."*
>
> *So they went to his house. The End!*

The following is Noelani's story about what happened at school that day.

> *I went to the library today. At home. I clean up my mess and then play my toys. I have a brother and have a daddy and a mommy. I have everything in the house. I have nice clothes. I have plenty dollies. I have plenty money. I like to go school. I paint pictures at school. I take a nap in school. And um . . . I draw at school on my paper. I put something on my paper. I draw anything I want. I have lots of friends. And that's all!*

Conclusion

The Keiki Book Bag system seems to be an appealing and effective way to get books into homes and to encourage parents to read to their children. When children listen to stories and talk with their storytellers about the different stories, they are likely to learn many concepts and make the language of the stories their own. Hopefully, they will come to love stories and books through the treasure of "a parent who reads to me."

Footnotes

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The Child as a Member of a Culture

Developing a culturally sensitive educational program is a multifaceted effort.

Ginger Fink

When a very young child enters preschool, he is presented with much to learn that is new. Expectations of his behavior are different, as are the furniture, tools, implements, and items in the environment. He has to learn new ways of interacting and new rules about using things. This learning must take place before he can successfully learn the content of the school curriculum. Among so much that is strange and different, how comforting and reinforcing to find things or sounds that are familiar, to understand the phrases and looks of some of the adults, and to comprehend subtle messages of body movement and posturing. How reinforcing to touch a basket like one at a relative's home, or to taste a familiar food at snack time.

Among the challenges of any sound early childhood program is to provide a learning setting and experiences that surround the children with aspects of their culture—the sounds, the colors, the materials; the behaviors and expectations of the people. Programs that succeed support the self-esteem of children in a powerful way, by telling them that the context in which they live their lives is important, and that the ways of their people are to be practiced and passed on.

The Traveling Preschool component of the Kamehameha Pre-Kindergarten Educational Program is a mobile early education program for families of preschool-aged children, primarily two to three years old (see Fink, "The Traveling

Preschool," this issue). It is a program in which a teaching team travels with a van filled with learning materials to a neighborhood and sets up the learning program in parks or other community gathering places. Children who attend are accompanied by their parent or other adult, and together they interact and play in a carefully planned environment with carefully planned activities.

The Traveling Preschool embraces and imbeds aspects of Hawaiian culture into its program. This paper describes significant program areas where we have integrated the cultural background of our children. Since the Traveling Preschool serves primarily Hawaiian children, the description of cultural considerations for developing a preschool curriculum draws heavily on traditional and contemporary Hawaiian culture. Furthermore, our experiences have been with preschools that travel within the community. Yet, the points made below can be translated into any preschool program that wishes to incorporate children's cultural background.

Identification and Incorporation of Hawaiian Values

To develop a preschool curriculum that includes important features of the culture from which our children come, we reviewed information about how Hawaiian children and families interact, how the children are taught and learn, and how the children are expected to behave when they learn (i.e., to look rather than ask). We also reviewed information about societal and family structures. With the help of Hawaiian resource specialists, we explored those values which continue to influence the daily lives of our children: the values of *'ohana*, or the extended family; the idea of *kuleana*, or area of responsibility; *laulima*, or cooperation; *'ike*, knowing or recognizing; and *kōkua*, or helping.

This information about traditional and present Hawaiian lifestyles provides the framework for the overall design of the program, as well as the day-to-day decisions teachers must make. It underlies decisions about environmental arrangements, classroom behaviors and operations, and how a teacher is expected to move about and interact.

Inclusion of aspects of the Hawaiian culture will be discussed in the following program areas: provisioning the environment, curricular expressions of the culture, that is, games, music, and foods; involvement of other members of the community; and use of the Hawaiian language. Since the integration of all this information into the ongoing program rests with the teachers, their selection and training are central to the program's success.

Staff Selection and Training

The process of selecting good teachers begins with a search for teachers who have lived or worked in the culture. Formal education cannot supplant this experience, which makes for empathy and for successful and sensitive interactions with families of the community. Candidates who have worked with

Hawaiian children and families are therefore favored. Respect for the community and for other cultures is a necessary trait.

Teachers who have been selected go through a period of training which includes study of Hawaiian teaching and learning styles, community dynamics, and other issues affecting Hawaiians such as health concerns, and social and economic issues. This period of study shows the influences that have shaped a people's ideas, beliefs, and actions over time, including geography, weather, natural materials, plants, and animals. Abundance versus scarcity of food and other resources influence a people. Religious beliefs and practices spring from a people's need to understand the phenomena around them. The sounds of the earth and the rhythms struck in the heart of the people emerge as their dances and songs. Therefore, study of the land, the weather, the plants, animals, waters, foods, sounds, and smells are part of the process of developing a culturally relevant program.

Also included in this preservice training is a period during which the teachers are asked to become familiar with the neighborhoods in which they will work, and to gather specimens of plants, soil, seaweed, seeds, and other materials common to the area. Many of these materials are woven into the culture and will likewise be woven into the learning program at some point during the year. This training process sensitizes the teachers to the environment, and presents them with many program resources they might not have considered previously.

The history of the community within which the teacher will work, information about significant community members, and the dynamics within which the community operates are other important parts of a teacher's training. In some cases, important community decisions are made informally by the *kupuna*, or elders, rather than by an expected governmental process. Therefore, knowledge about families, important figures, and how to use their experience as a resource are also invaluable in planning the preschool activities.

Training for Traveling Preschool teachers continues throughout the year, with Hawaiian culture and language forming a major part. Experts from the community can help out in providing instruction.

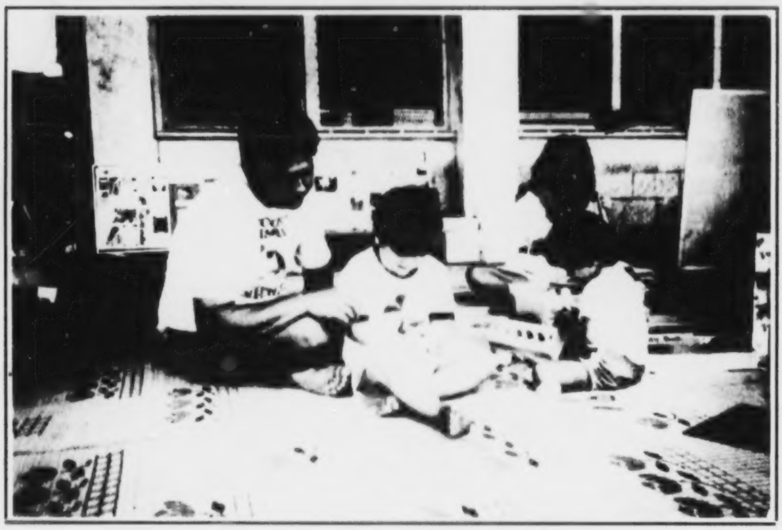
Caregiver Participation

Social networks among Hawaiians evolve from the extended family. All members of the family are responsible for the children, and relationships are affiliative. The broader community participates in the everyday life of the family; therefore, it is fitting that other members of the community be involved in the children's learning.

The Traveling Preschool requires a caregiving adult to be present with the child during the program hours. The participation of these adults not only provides for children's supervision and safety, but it also brings a wealth of human resources into the program by embracing and incorporating members of the broader community. In many cases, grandparents bring the children while parents work. In some cases, baby sitters bring children. Often fathers come, lending a balance and a sense of whole to the family-like gathering.

Since the parent or caregiver is heavily influential in the child's early learning, it is the program's goal to teach the parent ways to support the learning. This participation makes it possible for learning in the preschool to be extended into the home. In this respect, the Traveling Preschool complements the care given to the children by the caregiver.

The willingness of a parent or other adult to accompany a child and to remain at the Traveling Preschool is dependent on many factors in addition to a desire for the child to learn. The parent must experience some pleasure in order to continue to spend time in such a way. The teacher's ability to provide this acceptance is critical to the program's success. The Preschool's social setting and interactions must welcome the caregivers and value their presence.



The Environment

The Traveling Preschool's setting lends itself to the informality of contemporary Hawaiian life. Generally held out of doors, it is a learning setting without desks, chairs, or walls. Mats and low tables are spread about on the grass, and learning activities are distributed to these areas. Multi-sensory activities are provided for the very young, such as sand and water play, and Play-Doh. An easel may be mounted on a fence or tied to a tree trunk. An aquarium may be present with a fish or two. A resource table for parents is nearby, with books, pamphlets, and other useful or helpful items. This table is usually decorated with a bouquet of local flowers or a display of children's art. Families and children sit on the mats to use the many materials.

Teachers' inventories include items such as small *lau hala* (pandanus leaf) mats for displaying certain activities and wooden bowls. Baskets of *lau niu* (coconut leaf) or *lau hala* are frequently used to contain toys or other items, even though a plastic container would last longer and lend itself more easily to washing. Dolls are of dark skin, and accessories for home play include shell jewelry and *mu'umu'u*. Each teacher has a set of Hawaiian musical instruments and hula implements which are carried in a traditional type of basket. Natural materials, local fabric patterns, and a variety of other carefully chosen items "soften" the presentation, and contrast with the plastic appearance that can dominate classroom environments.

Activities and Materials

Good picture books appropriate for young Hawaiian children make up part of the children's library. In addition, children are offered many other books about topics of interest, including sea creatures, trucks, cars, other vehicles; and books about typical preschool concepts such as colors and numbers, and many other topics. Children are encouraged to "write" or dictate their own stories, drawing from their personal experiences. Parents are given the opportunity to make books to take home. Many of these books feature stories with Hawaiian ideas or items.

Typical preschool cognitive "games," such as matching tasks or puzzles, are often made from *kukui* nut shells, *kamani* nuts, or shells of local snails. Children match cups of dirt samples—dirt taken from a mountain area, and sand from the beach. Picture post cards of local flowers are made into lotto games, and pictures from tourist brochures into picture books. Paintbrushes are made from the *hala* pod, and used much as ancient Hawaiians used them. Unhusked coconuts are used for pounding nails.

Throughout the year, traditional Hawaiian games, with appropriate adaptations, are woven into the curriculum. For example, the games of *pala'ie*, *no'a*, *kilu*, and *kuala po'o* are integrated, one game per quarter, into the learning activities. These games are generally for motor coordination and include using a ball and hoop made from coconut or *niu* leaves, hiding stones under a piece of *kapa* or cloth, sliding two coconut shell halves together, and turning somersaults with the help of an adult. The current Hawaiian celebrations of Aloha Week and Lei Day are observed.

Contemporary Hawaiians enjoy foods, practices, and celebrations that reflect the cultures of the many ethnic groups that have come to Hawai'i during the past two hundred years. Many practices, such as eating rice with chopsticks, have become so commonplace in daily life that they are considered Hawaiian (contemporary), even though their origins were not Hawaiian. Additionally, since any family from the community is welcomed at the Traveling Preschool, the program also includes arts, songs, and other activities that reflect the multi-ethnic backgrounds of the families, such as Chinese, Japanese, and Filipino.

Participation by Members Of The Community

The teacher enriches the daily program by drawing upon the resources of the community. When the children learn about vehicles, parents are asked if they know anyone who drives a truck, and if that truck might come to school. We have had a variety of truck visitors, including a highly-customized competition pick-up truck, dump trucks, and garbage trucks. In summer months, fishermen are sought out and asked to bring a sample of their catch. Parents talking about different occupations provide interest and real-world knowledge about what grownups do once they go away for their work day. Other family members teach things like *lei*-making or preparing special foods. Some sing for us; some dance.

Other community members invited to visit might be the librarian, the public health nurse, and the local physician or dentist. All of these people enrich the children's knowledge and their learning.

Use Of The Hawaiian Language

One of the primary outcomes for which the program strives is an increased facility with language in general. An important part of creating a culturally sensitive environment is the use of the Hawaiian language. Teachers are expected to weave Hawaiian phrases and words into the daily routines. The children learn to name certain body parts and colors, and to count up to five in Hawaiian. Hawaiian songs are learned and rehearsed. The phrase of praise, *maika'i*, is used often in order to encourage appropriate behavior of a child and to encourage the practice of praising by the caregivers.

Conclusion

Developing a culturally sensitive educational program is a multifaceted effort, including careful choices of materials, training of teachers, identification and reinforcement of specific learning and interaction styles, inclusion of the language, songs, and celebrations of the culture, and involvement of important people in the lives of the children. It is a dynamic, vibrant process, ever changing and evolving.

As the Traveling Preschool day draws to a close, the children gather to sing and bid goodbye to their friends. It is fitting that the last song is *Aloha, A Hui Hou*: "Goodbye, dear ones, until we meet again."

We wish to thank Jackie Carroll and Thomas G. White for their invaluable editorial assistance.

THE KAMEHAMEHA JOURNAL OF EDUCATION

EARLY EDUCATION DIVISION
KAMEHAMEHA SCHOOLS

PS 020472

Volume 1 Number 3 September 1990

BEST COPY AVAILABLE

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The *Kamehameha Journal of Education* publishes articles on the education of Hawaii's children. This journal is for teachers, principals, curriculum developers, college and university faculty, superintendents, and those in political arenas; in short, it is for anyone concerned with educational matters. Journal issues center around themes such as educational program descriptions, teaching strategies, instructional settings, cultural and learning-style differences, and current educational topics, all dealing with ways Hawaii's children come to enjoy school and to succeed in it.

Published by the Early Education Division, Kamehameha Schools, Kapalama Heights, Honolulu, HI 96817. The opinions expressed herein do not necessarily reflect the position, policy, or endorsement of the Kamehameha Schools/Bernice Pauahi Bishop Estate.

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The Kamehameha Journal of Education

Volume 1, September 1990

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Profile

John Dolly

As Dean and Professor of the College of Education at the University of Hawaii at Manoa, John Dolly plays an important role in planning the programs that prepare future teachers. He is strongly committed to the notion that all children can learn. He feels the College of Education has an obligation to develop programs that enable teachers to work with all children, thereby insuring they reach their full potential regardless of economic and social conditions.

What do you see as the major challenge of the College of Education in the coming years?

The major issue that has emerged over the past three years is the teacher shortage. This shortage is particularly pressing on the neighbor islands and is compounded by the fact that most of our prospective teachers in the College live on Oahu. Having grown up here, they are reluctant to move to the other islands.

Another challenge facing the College is the striking change in the nature of the student body. When I came to Hawaii in 1986, over 60% of our students were young, full-time students; now over 60% are nontraditional students, often attending the College part-time and often over 29 years old. Many of these nontraditional students have families, have been out of college for several years, and have full-time jobs; some are retired from the military, some want a career change at age 40, and some are women who have raised families and now want to get back into the workforce. It is becoming a rarity to have a four-year graduate. Students now take about six years to graduate. It is inappropriate to put mid-career people into coursework designed for 20-year-olds.

We have to think of alternate systems for educating our prospective teachers. These alternatives need to address the teacher shortage and the demographic changes in our student population at the College.

What are some alternatives the College is considering?

One approach to reducing the teacher shortage on the neighbor islands is the use of the Hawaii Interactive Television System, or HITS, which connects the University with UH-Hilo and with all the Community Colleges. This system can be used for live, long-distance lectures and demonstrations. The instructor and the students see and hear each other on television monitors and can interact with one another live, asking and answering questions. Another alternative is flying our faculty over for the summer. However, in order to meet the long-range demand for teachers on the neighbor islands, we need to expand our facilities and have complete programs located there.

We are also revamping parts of our curriculum to make it more practitioner and classroom-oriented. We are developing a two-year Master's degree program geared mainly toward the nontraditional student. In this new program we are more concerned with the skills and experiences teachers need than with traditional coursework. For the first year, the students will be placed into schools and the courses will be taught in the schools by the College of Education faculty. The coursework will be tied directly to classroom practices. It is a case study model that looks much more like a medical or law school program than traditional teacher education. The students have actual problems, for example discipline problems, and work to solve these problems by applying information from their readings and coursework. A curriculum developed around this concept will yield a teacher education program that is directed at the needs of the schools in this State. The second year of the program will consist of a year of paid internship, in which a master teacher supervises the intern.

Together with the Department of Education (DOE), we are working on another alternative—the professional development schools. Model schools that work the way schools should work would be excellent places for learning how to become a teacher. Prospective teachers would apprentice with outstanding teachers, who would serve as their mentors and models. These schools would also be DOE sites for inservice training. These professional development schools are critical. It is the only way we are ever going to significantly increase the number of teachers we can educate. Moreover, we will never change and improve the quality of our schools unless we have some models that are different and demonstrate what will work: Unless we have a collaborative effort between the University and the public schools, we will never improve our program or the teaching profession.

Do you see groups of children in the public schools who need to be taught by specially trained teachers; for example, do you see minority children needing a different kind of teaching?

The term minority isn't really appropriate for our State. In our multicultural society, those groups who are usually thought of as a majority are the minority and *vice versa*. Because our classrooms are multicultural and our teachers so mobile, it is not in the best interest of our prospective teachers to learn to work with a single minority. Yet, they need to be sensitive to cultural differences and need to be aware of different learning styles.

In addition to alternative ways of teacher preparation, we should consider serious alternatives for educating our youngsters. We have to admit that the way we have prepared teachers and the way we have organized schools have met the educational needs of only about 55% of our students. Twenty-five percent have dropped out before they graduate from high school. Then another 25% graduate with less than a 2.0 grade point average, which means they have not gotten much out of their years in school. We need alternative models for educating our youngsters. That is why I like the Hawaiian language immersion programs. They break the mold and allow for a significant departure from the traditional elementary school. Why not let people do something different instead of forcing every school and every group in the State to look alike?

What is PETOM's place in the College of Education?

PETOM is an experimental, alternative program for teacher education. It is a program that targets teachers to work with children who are from diverse backgrounds and who are having problems in our educational system. We need programs like PETOM and ought to have more than PETOM—or PETOM ought to have different options. There should be at all times in the College experimental programs, such as this one, to address change—change within the student body in our College as well as in the public schools.

I like the integration of the coursework in PETOM and the emphasis on practice in the classroom. The notion of a cohort, of having a group of students move together through their training, makes sense: they support each other, and this support will probably continue when they are teaching. The emphasis on working with Native Hawaiian youngsters should generalize to other groups in the Pacific and will make the prospective teacher generally sensitive to cultural differences. If teachers are good in working with one culturally different group, they will hopefully work well with others.

PETOM works hard to recruit prospective teachers from those ethnic groups that are underrepresented in the College. The College has had relatively few Hawaiian and Filipino students, and over the last few years, we have doubled the enrollment of each of those groups. We are putting into the Student Services Office a full-time counselor, whose primary job will be to work with the community colleges where most of the under-represented minority students are located.

PETOM shows that more direct involvement with prospective teachers gives them more self-assurance about being teachers. The question is whether we can afford to run expensive programs like this one. At present Kamehameha Schools is paying, among other things, for one-and-a-half faculty positions. Yet, down the road we may find that in order to have an outstanding teacher education program and to turn out teachers who can work effectively with the culturally diverse children and with the many problems in our schools, it will take a labor-intensive, high cost program.

How do you see PETOM's future?

The more comprehensive evaluations of PETOM have been very positive. The students like the program, and they feel more self-assurance as they begin their teaching career. The graduates seem to be doing well in the DOE, which is the primary criterion. But, longer-term follow-up is critical. What was and what wasn't effective we won't know until the students have taught for several years. Particularly important for PETOM is to see whether the teachers will stay in those schools where there is a high percentage of "minority" children, and whether they will continue to be dedicated to working with these children.

PETOM was developed around the traditional full-time college student. If PETOM wants to draw minorities into the teaching profession—which I think should be a goal for the program—it will need to work with nontraditional students. The program will have to be restructured to accommodate these students—students who are working and have families to care for. Such students will not be able to complete the program in a two-year cycle.

PETOM is one of the programs of the Goodlad Consortium. How has this partnership affected the working relationship between the College of Education, the Department of Education, and Kamehameha Schools?

The Goodlad Consortium has had a positive impact. It has encouraged the three institutions to continue to work together on a whole range of issues, not just PETOM. It has become a matter of course that we invite each other to discuss educational issues and problems in the State. Even if the Goodlad Consortium ceased to exist, I believe the present healthy cooperation among the three institutions would continue.

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PETOM
Preservice Education for Teachers of Minorities

Myra Kent
Philip Whitesell
Sheida White
Gisela E. Speidel

There are many students from minority backgrounds whose educational achievement is not consistent with their native abilities. Preparing prospective elementary teachers to work more effectively with these underachieving students is the goal of the Preservice Education for Teachers of Minorities (PETOM). This is a cooperative venture, involving The Kamehameha Schools, the University of Hawaii College of Education (COE), and the Hawaii State Department of Education (DOE).

Origin

PETOM draws heavily upon the work of the Kamehameha Early Education Program (KEEP). Kamehameha Schools/Bishop Estate (KS/BE) founded KEEP in 1971; its purpose is to assist Hawaiian and part-Hawaiian children in public schools and to develop more successful language arts teaching approaches for these children.

Concentrating on kindergarten through third grades, KEEP staff has made advances in understanding how social, cultural, and cognitive strengths of minority children may be incorporated into classroom organization and instruction.[1] For many years KS/BE and the DOE have cooperated in bringing approaches developed at KEEP to thousands of public elementary school students, Hawaiian as well as Laotian, Tongan, Fijian, Samoan, Filipino, Vietnamese, Chinese, Caucasian, and Japanese.

Roland Tharp, one of the founders of KEEP, recognized that knowledge gained by KEEP staff could be useful in training future teachers, particularly those who would be working with diverse and multicultural groups of children. In a series of conversations, administrators of the COE and KS/BE decided to work together to provide preservice education to a limited number of future teachers who would direct their careers toward the teaching of underachieving minority children.

Thus, PETOM was launched in 1984. After an initial two-year cycle as an alternative field experience in the undergraduate elementary education program, PETOM was expanded to program status and identified as one of the major projects of the Hawaii School/University Partnership (HSUP). HSUP, whose executive director is Juvenna Chang, is one of thirteen members of the National Network for Educational Renewal headed by John I. Goodlad. This collaboration formalized and gave more visibility to PETOM.

The roles of the partners in PETOM are closely integrated. The University provides the liberal arts core, and the COE provides a basic education curriculum course. In addition, COE faculty participate in teaching courses specific to PETOM. The Kamehameha Schools' KEEP staff teach PETOM courses and supervise field experiences emphasizing the special knowledge, skills, and values needed in teaching underachieving minority students. The DOE provides public school field sites and mentor teachers, as well as recruitment and placement assistance for graduates of the program. The coordinator of the program, Myra Kent, is a KS/BE staff member who works with the COE. Continuous program evaluation and revision is carried out by program staff, including personnel from both the COE and KS/BE.

Evolution

Traditionally, the primary mission of the College's undergraduate initial certification program has been the preparation of teachers for mainstream children. A growing concern for underachieving minority students had generated some projects, courses, and course units in multicultural education. The opportunity to work with KS/BE, however, enabled the College to focus this concern programmatically and enlist the experience, knowledge, and expertise of the KEEP staff. What began as an alternative field experience has developed into an experimental program leading to elementary certification. During 1990-91 PETOM is scheduled to be reviewed and considered for approval as a continuing alternative program.

The three cohorts of students that have gone through the two-year PETOM program (Cohort I graduated in Spring 1986, Cohort II in Spring 1988, and Cohort III in Spring 1990) have had rather different experiences. For the first cohort the only differences from the

Graduation Celebration

typical COE program for elementary teacher training were three semesters, instead of one, of Observation-Participation (OP) with teachers who used approaches developed by KEEP. Each semester of OP was accompanied by weekly seminars with research and program development staff of KEEP.

Under the leadership of Stephanie Dalton, the first coordinator of PETOM, and the guidance of Philip Whitesell and Daniel Blaine, Associate Deans of the COE, PETOM coursework expanded. Cohort II took tailor-made PETOM courses, many of which were taught by KEEP staff. Within this expansion, the three semesters of OP experiences and OP seminars came to provide a practical backdrop to specialized coursework.

The major change for Cohort III was an expansion of the generic teaching methods strand and switching the student teacher supervisor from the regular pool of college coordinators for student teachers to PETOM's field coordinator. This allowed for consistency in application of PETOM philosophy for student teaching during the fourth semester.

The curriculum, thus, has changed over time. Earlier versions can be found in PETOM publications.[2] The curriculum for the incoming cohort in Fall 1990 is shown in Table 1 on the following page. Brief course descriptions can be found in the appendix.

Over time, PETOM faculty from the COE and from KEEP have come to work more closely together in teaching PETOM's students and in developing PETOM's curriculum.

Table 1

Course Schedule

Strand	Semester 1	Semester 2	Semester 3	Semester 4
A: Methods of Instruction	Methods I	Methods II	Methods III	Student Teaching
	Classroom Management	Reading, Writing, Thinking	Elective	
		Language Development		
B: Inquiry	Child Development	Culture, Cognition, and Education	Classroom Assessment	
	Foundations		History/Philosophy of Education	
C: Field Experience	OP Seminar I	OP Seminar II	OP Seminar III	Student Teacher Seminar

The nature of this interaction is reflected in the important contributions by COE faculty to this issue.

Distinctive Features

PETOM's position as an experimental teacher education program within the COE brings together as its faculty a group of individuals who are similar in vital ways. They feel shared responsibility for the growth of their students in becoming full-fledged teachers; they realize the importance of extensive communication with each other and make time for the exchange of ideas, in spite of pressing other concerns; and even though they come from diverse disciplines, they hold surprisingly similar views on teaching underachieving, nonmainstream children and on teacher preparation for working with these children. Through lengthy conversations during meetings and retreats and from working together in the courses, particularly the methods courses, the articulation of these beliefs was made possible.

Educational philosophy

PETOM's philosophy about making schools successful places for minority children is based on the assumption that when instruction is compatible with natal-cultural patterns, improvements in learning basic skills can be expected. There are two kinds of adaptations.[3] First, there are those cultural adaptations in teaching that need culturally specific considerations—social organization, sociolinguistics, cognitive style, and motivational traits. Second, there are adaptations that are constant for most underachieving minority groups—language development and contextualized instruction.

Culturally Specific Variables. The PETOM program assumes that the educational underachievement of many minority group populations is, in part, the result of a mismatch between instructional format and cultural styles of learning, motivation, interaction, and social organization. PETOM gives its future teachers an understanding of how these cultural and socioeconomic variables can affect teacher-pupil interaction and pupil achievement. Future teachers explore ways in which they might alter their teaching behaviors and classroom structures and atmosphere to adapt to relevant style differences. For example, cooperation is a natural interactional style of many cultural groups in Hawaii. Rather than preventing group interactions in the classrooms, future teachers explore how such interactions can be used for learning. The article by Mistry, in this issue, describes in greater detail the cultural concepts underlying PETOM's preservice education.

Language Development. Some cultural groups do not emphasize verbal/analytic problem solving. For instance, children of Hawaiian ancestry tend to perform above average on nonverbal cognitive tests,[4] but below average on those verbal tests that predict school achievement. Such children are handicapped in traditional schools because teachers rely so heavily on verbal/analytic methods and verbal forms of instruction. The use of more visual approaches in the instruction of these children is, however, only part of the solution. In the end, the children need to be able to compete with others in more verbal/analytic situations. "Mastery of language instruction, whether in bilingual or monolingual programs, will continue to be the *sine qua non* for academic achievement to the extent that verbal means of instruction continue to dominate and literacy continues as the core goal of education."[5]

Language development, thus, needs to be a pervasive goal for the entire school day. PETOM includes a course on language development in the classroom. The techniques with which the future teachers are made familiar emphasize purposeful conversation and contextualized instruction rather than drill-like practice or isolated vocabulary teaching. Since there is no article in this issue specifically addressing PETOM's emphasis on language development, the interested reader can find many of the techniques described in some detail in various publications by Speidel.[6] The ways in which language development can be integrated with regular instruction are continuously reinforced in the generic methods courses.

Contextualized Instruction. Instruction should try to be meaningful and relevant to the child, building upon previous knowledge, giving hands-on experiences, or occurring in an activity that is important to the children. This recommendation comes now not only from the culture-and-education field, but also from developmental psychologists and educational reformers. The generic learning and teaching principles described in the article by Picard and Young (see Picard and Young, this issue), such as inquiry, experiential learning, cooperative learning, development of oral and written communication, integration of ideas and subject matters, and attending to individual needs, are all ways to make instruction contextualized and meaningful for the pupils.

Teacher Preparation Approach

The teacher preparation philosophy underlying the PETOM coursework has a number of well-articulated points.

Principles and Concepts. PETOM assumes that presenting future teachers with generic educational principles and concepts will result in teachers who can make more informed decisions when confronted later in their careers with "band wagon" thinking or with requests to alter their curriculum or their teaching approaches. Thus, PETOM future teachers learn analytic skills to encourage flexible application and experimentation with different teaching techniques.

Inquiry. In conjunction with this first assumption is an emphasis on inquiry throughout their education. Not only is inquiry consistently used by PETOM faculty in teaching their future teachers, but there is a whole course dedicated to inquiry. In this course the students use different forms of systematic observation to obtain answers to a question that is important to them. An example of such an inquiry project is found in this issue in the article by Brogan and Ohta, two Cohort III students.

Generic Teaching Methods. Should preservice education at the elementary level be accomplished through subject specific coursework or through generic instruction? The content specific approach, which has been the common approach to teacher education, assumes that knowledge of the subject area content is of primary importance and that there is limited transfer of teaching strategies from one area to the next. The generic approach, which is of more recent vintage, assumes that there are common teaching strategies across different content areas and that, at the elementary level, it is worthwhile to structure training around this common ground.

PETOM attempts to integrate the two approaches. In its three consecutive methods courses, general teaching strategies are emphasized, but at the same time content-specific modules are included that focus on the unique selection and adaptation of teaching strategies within the selected subject areas. Students may take specific methods courses as part of their further education. The articles in this issue by Hao and by Picard and Young describe the methods courses and the generic teaching and learning principles underlying the courses. The subsequent articles by Picard, Young, and Pickens describe the major content modules included in the methods courses.

Cohesion and Integration. Given that there are generic teaching principles, the best way to demonstrate these to future teachers is through a cohesive and integrated curriculum. Great effort is therefore made in PETOM to integrate the courses with each other and to sequence them so that they build on each other. The pivot courses in this integration are the methods courses, in which the instructor continuously draws upon and exemplifies the concepts learned in the other courses. For instance, PETOM does not just teach a course on cultural sensitivity, rather the concepts of culturally compatible education are woven into all other courses including field work.

Extensive and Intensive Field Work. In order to maximize their preservice education, future teachers need to see, apply, and try out the

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techniques discussed in their coursework. PETOM field work is extensive—three semesters of OP. Moreover, in line with PETOM's emphasis on cohesion, great effort is made to insure that as the students learn about something in their coursework they have the opportunity to observe and try it out in their OP classrooms. The article by Kent describes the nature of the field experience in greater detail.

A Cohort Model. The PETOM students go through the two years of the program as a unified group. The cohort approach helps to build relationships among the future teachers and enables them to feel comfortable about learning from each other during the program. When such relationships continue after preservice training they can provide a supportive network among new teachers, helping to maintain and enhance PETOM-based skills during the first few years of teaching. Through co-operative learning groups during their coursework, PETOM students discover that their peers can provide useful feedback and can help in solving problems, setting the stage for later team-teaching and openness to feedback from other teachers.

Evaluation and Status of PETOM

Different forms of evaluations have been done on PETOM during its evolution.[7] One focus of these evaluations, the perceptions that PETOM graduates have of the usefulness of their education, is described in an article by Speidel in this issue. The most ambitious evaluation was done by Calkins and Note,[8] comparing the performance of Cohort II with a control group. In this evaluation, Cohort II and the comparison group were rated equally by their supervisors during teaching. In writing how they would handle certain situation, however, the PETOM graduates responded differently from the comparison groups in ways that reflected their PETOM coursework. The study suggests that the program does have specific effects on those teaching behaviors that PETOM emphasizes for teaching minority children.

PETOM faculty use the results of these evaluations to modify the curriculum. However, changes also come about as the result of talks with PETOM's students and their mentor teachers and discussions with as wide an array of educators as possible.

Clearly, employment of graduates in schools with educationally at risk children is one of the key factors in the usefulness of PETOM to the COE. The employment of PETOM graduates is quite favorable as shown in Table 2.

Perhaps the most encouraging statement came from the NASDEC evaluator, Dr. Harriet Sherwin, who in Fall 1988 rated PETOM as meeting all of the Standards for Innovative and Experimental Programs within the College.[9] On the basis of this evaluation PETOM

Table 2

Number of PETOM Graduates in Education Related Work, 1990-91

Cohort					
	Total	Traced	Teaching	Continuing Study	Employed in Target Schools*
I	10	9	9	—	7
II	9	8	7	1	7
III	12	10	4	6	4

*Target Schools: Over 25% Hawaiian Children and/or other underachieving minorities.

was awarded a full, five-year accreditation approval.

Conclusion

The articles in this issue describe in fuller detail many of the points mentioned briefly above. We encourage the reader to keep in mind that it is not possible to give due justice to the integration and cohesion existing within all levels of PETOM. This difficulty became most apparent to the editor and the authors in the description of the methods strand—the description of the principles of learning and teaching and how they are being realized in the methods courses and their modules. The whole is clearly greater than its separate parts. Yet, in order to convey the program to others, it needed to be described in pieces.

PETOM will continue to evolve. The nature of this preservice teacher education program was captured well by one of its COE faculty: "What makes PETOM exciting is the flexibility and willingness to scrap what doesn't work and start over again."

Footnotes

[1] Speidel, G.E., ed. "KEEP—The Kamehameha Early Education Program" special issue of *Educational Perspectives, 40.*

[2] See, for example, G. Julnes, H. Akamine, G. Pacheco, S. Dalton, C. O'Donnell, D. Blaine, and R. Tharp. *Evaluation and Recommen-*

dations: The 1984-85 joint program for preservice field training of the College of Education, the University of Hawaii at Manoa, and the Center for Development of Early Education, Kamehameha Schools/Bishop Estate, Technical Report #128, Center for Development of Early Education, Kamehameha Schools/Bishop Estate, Honolulu, Hawaii, 1985. Also, S. Dalton, *Pre-Service Education for Teachers of Minorities: An Alternate Program in Elementary Education*, paper submitted to the College of Education, University of Hawaii at Manoa, 1987; *PETOM: Teacher preparation that fosters equal access to education in multicultural classrooms. A task force of the Hawaiian School University Partnership*, submitted to the College of Education, University of Hawaii, 1989.

[3] Tharp, R.G. "Psychocultural variables and constants: Effects on teaching and learning in schools" in *American Psychologist*, *44*(2), 349-359.

[4] Speidel, G.E., D.C. Farran, and C. Jordan. "On the learning and thinking styles of Hawaiian children" in D.M. Topping, D.C., Crowell, V.N. Kobayashi, eds., *Thinking Across Cultures*, Hillsdale, NJ: Erlbaum, 55-77.

[5] Tharp, *op. cit.*, see footnote 3, 355.

[6] Speidel, G.E. "Language differences in the classroom: Two approaches to language development" in E. Oksaar, ed., *Sociocultural Perspectives of Multilingualism and Language Acquisition*, Tubingen, Gunter Narr Verlag, 1987, 239-259; G.E. Speidel, "Conversation and language learning in the classroom" in K.E. Nelson & A. van Kleek, eds., *Children's Language, Vol. 6*, Hillsdale, NJ: Erlbaum, 1987, 99-35; G.E. Speidel, "Language development in the classroom: The natural way" in *The Kamehameha Journal of Education*, *1*(1), 1990, 16-22.

[7] Calkins, R. and M. Note. *Preservice Education for Teachers of Minorities: Spring 1988 Evaluation*, Center for Development of Early Education, Kamehameha Schools/ Bishop Estate, Honolulu, Hawaii, 1988. Also, S. Dalton and G. Julnes, *Evaluation and Recommendations: The 1985-86 Joint Program for Preservice Field Training of the College of Education, the University of Hawaii at Manoa, and the Center for Development of Early Education, Kamehameha Schools/Bishop Estate*, Technical Report #140, Center for Development of Early Education, Kamehameha Schools/Bishop Estate, Honolulu, Hawaii, 1986; P. Brandon and O. Hammond, *A Formative Evaluation of the 1986-87 Preservice Education for Teachers of Minorities Program*, Report 1, 88, Office of Program Evaluation and Planning, Kamehameha Schools/ Bishop Estate, Honolulu, Hawaii, 1988; O. Hammond and K. Cambra, *PETOM Evaluation Questionnaire: A Brief Report*, Office of Program Evaluation and Planning, Kamehameha Schools/Bishop Estate, Honolulu, Hawaii, 1990.

[8] Calkins and Note, *op. cit.*, see footnote 7.

[9] NASDEC. *Evaluation*, College of Education, University of Hawaii, 1988.

Appendix

PETOM Course Descriptions

Semester One

Methods of Instruction I
Exploration of general pedagogical principles and teaching strategies specific to subject matter, K-6; application to underachieving minority students. Live and video demonstrations, role-playing and practice in multicultural classrooms.

Classroom Management
Study of three interrelated aspects of classroom management: behavior management, classroom organization, and planning, particular emphasis on theory and techniques successful with underachieving children from multicultural backgrounds. Live and videotaped demonstrations, practice with peers and in field-experience classrooms; stress on situational analysis and instructional decision making. Planning, teaching, and analyzing a videotaped lesson.

Foundations in Curriculum and Instruction
Objectives and organization of school curriculum; methods, materials and evaluation in instruction. Weekly observation and participation in classrooms.

Child Development
Cognitive, social and emotional development of children, aged 5-12; interaction between development and school expectations; exploration of three social groups important for a child of this age—family, schools, and peers—and the larger cultural context of these three developmental settings.

Field Experience I
Observation and participation in multicultural classrooms with underachieving children; activities, including microteaching, assigned to apply knowledge obtained in PETOM courses; guidance and contextualization provided by host teachers and a field consultant; minimum of 40 hours in the classroom.

Semester Two

Methods of Instruction II
Continuation of study of generic pedagogical principles and teaching strategies specific to Science, Math, Art, Music, Social Studies and Physical Education; in depth exploration of adaptations for teaching underachieving minority students and the effects of classroom interactional styles on learning.

Culture, Cognition, and Education
Influence of culture on thinking: early socialization experiences, eco-niches, and activity settings; implications of culturally distinct social and cognitive processes for designing of multicultural social programs, with primary focus on schools; consideration of principles for provision of culturally congruent services.

Reading, Writing, and Thinking
Examination of reading and writing as constructive processes: reader and writer engaged in search for meaning; exploration of successful methods with underachieving minority students; observation and practice teaching opportunities.

Language Development

Examination of need for language development in underachieving minorities and relationship between language and reading; exploration of natural language learning conditions in different cultures; ways to extend and apply these conditions to strategies for language development in the classroom. Live and videotaped demonstrations; practice with peers and in field-experience classrooms.

Field Experience II

See Field Experience I

Semester Three

Methods of Instruction III

Generic principles and practices of effective instruction, studied in the first two semesters, are integrated with the different content areas; students develop an extensive theme unit to be taught during student teaching.

Classroom Assessment

Assessment of teaching/learning outcomes; traditional assessment and measurement and formal methods of student evaluation; exploration of less formal assessment procedures in which student classroom behaviors are used to design, implement, and evaluate teaching/learning objectives.

Foundations of American Education

Contemporary educational theory and practice as related to major historical, philosophical, and social factors in American culture.

Field Experience III

See Field Experience I

Semester four

Student Teaching

Placement in multicultural classrooms with underachieving students; under supervision of a successful elementary teacher, practice teaching all subject areas using strategies and techniques presented in PETOM coursework; guidance and contextualization provided by mentor teachers and field consultant; meets COE and PETOM student teaching requirements.

Student Teaching Seminar

Consideration of problems and solutions in student teaching, researching and presenting relevant information. Plan lessons and a teaching unit; emphasis on multicultural underachieving students; development of professional competencies; broaden understanding of DOE schools and programs, district and state level functions.

Cultural Issues in Education: PETOM's Approach

Jayanthi Mistry

PETOM's claim to be a unique teacher-preparation program lies in its emphasis on equipping its graduates for success in working with underachieving minorities in Hawaii's elementary schools. The program has many distinctive features, such as extensive and integrated fieldwork (see Kent, this issue), a highly developed and integrated series of methods courses (see Hao, this issue), and a core faculty that ensures the cohesiveness of the program. Nevertheless, the central, defining, and justifying aspects of the program are those that deal directly with effectively teaching underachieving children of minority background.

Several basic issues surface when designing a preservice program that prepares teachers to work within multicultural classrooms, such as those in Hawaii, and to focus on the needs of underachieving minorities. These issues and PETOM's approach designed to prepare future teachers to use culturally compatible teaching processes form the content of this paper. First, some assumptions and philosophy underlying PETOM's approach to cultural issues in education are discussed. This is followed by a brief delineation of the concepts and theoretical framework that provide future teachers with the analytic tools necessary to work within different kinds of multicultural environments. Finally, PETOM's strategies to ensure their future teachers' successful application of their knowledge in working with underachieving minorities are described.

Basic Assumptions and Philosophy

PETOM's philosophy and assumptions regarding cultural issues in education are the foundation for many of the features that make it a unique teacher-preparation program. A central assumption is that the education of children can be more effective if they are taught in a context and through a process that is compatible with their natal culture.[1] It is essential, therefore, to look across cultures at the natural learning of children during their daily routines and tasks.

Developing culturally compatible programs might, thus, seem to be a never-ending task. However, the work of anthropologists and cross-cultural psychologists has shown that although there are differences from one culture to the next, there are also remarkable similarities in the way children learn naturally. In virtually all cultures, the natural teaching-learning in daily life takes place during social interactions. According to Vygotsky[2], these social interactions are the origins of higher mental functioning: thinking, memory, and speaking. Children across all cultures acquire many of the valued skills, cultural tools, and linguistic means of carrying out activities through participation in joint activity with more skilled partners.[3]

A number of central themes derive from these assumptions.

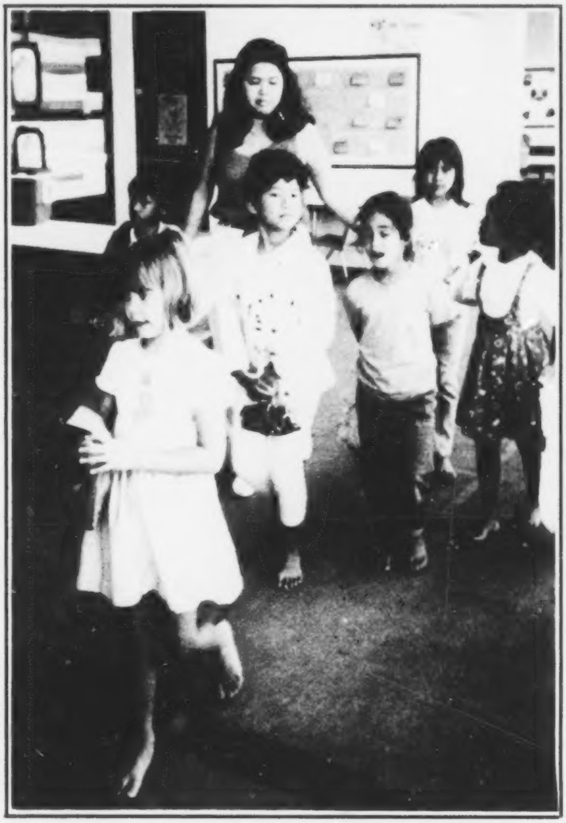
1) Teaching is viewed as assisted performance of apprentices in joint activity with experts.[4]

2) Learning needs to be integrated and contextualized.

3) We need to attend to the social context of learning at home and at school in order to make school more compatible with home cultures and hence more effective.

4) Some features of the home culture will be more relevant to learning than others. The crucial features can be identified and adapted to create culturally compatible programs that bridge home and school cultures.[5]

Along with similarities across cultures in the social processes of learning, there are differences in which skills and values are promoted in different cultures. Communities differ in the skills considered important and in the means available to individuals to acquire these skills—(e.g., reading, weaving, sorcery, managing people) and approaches valued—(e.g., individual achievement, speed in performance, interpersonal harmony). Communities also differ in the means available for learning by either observing and participating in culturally important activities or by receiving instruction outside the context of daily routines.[6] In middle-class western communities, since there is often a separation between adult work and recreation settings and children's activity settings, children's preparation for adult life requires special and separate contexts for learning (i.e., formal schooling) with a focus on explicit verbal instruction and communication. In other communities children are a part of adults' work and home activities and learn to take responsibility for their own learning; they develop a preference



for observation and participatory learning processes. PETOM recognizes such differences and helps future teachers to bridge them for their students by consciously facilitating verbal skills in the classroom. Purposeful oral and written communication is an integral part of the instructional process in all curriculum areas.

PETOM's knowledge base for teaching underachieving minority children comes from the elaboration and clarification of Vygotsky's[7] concepts regarding the social context of learning.[8] It is also based on research and development work to create a culturally compatible educational program for Hawaiian children.[9]

PETOM tries to give its future teachers an understanding of these concepts. Since it assumes that crucial features of home and school cultures can be identified and adapted to create culturally compatible programs, PETOM provides future teachers with an analytic framework that identifies classes of variables, or aspects of instructional processes, that most often need to be tailored to make these compatible with the home cultures of the children in their class.[10]

Because PETOM goes beyond just providing future teachers with specific strategies to work with particular minority groups, its approach is different from the usual multicultural education programs. For even in its broadest conceptualization,[11] the purpose of multicultural education is to promote cross-cultural competencies in future teachers by having them learn about a number of different microcultures so they can discern how to function appropriately in varying cultural contexts.

The Framework for Culturally Compatible Classrooms

In PETOM's course on culture and cognition, the future teachers are given the framework and the analytic tools to design their own culturally compatible classrooms. There are three facets to this preparation.

Understanding Learning under Natural Conditions

Future teachers develop their own thorough understanding of the principles of learning under natural (non-school) conditions. They read and discuss studies of how children learn in a variety of cultural communities[12] and come to see how natural learning principles derive from these in-depth studies; they develop an understanding of how the teaching/learning processes in the culture of the home and community are also the ones most effective for teaching and learning the literacy and cognitive skills so central to western education.

In other words, future teachers learn what the fields of anthropology and cross-cultural psychology have discovered from examining how people learn within the culture of their home and their community. The implications for education are these:

1. Learning is functional; that is, in day-to-day life, learning always serves a practical purpose. Therefore, we need to make learning functional in school as well.

2. In day-to day life, skills are acquired through contextualized and integrated learning. That is, we do not learn isolated skills; rather we engage in culturally meaningful activities through which we acquire the skills necessary to engage in that activity.

3. Much of day-to-day learning is through observation and hands-on experiences. Paper-and-pencil learning and learning through lectures are uncommon.

4. Much learning occurs within social interactions. Individuals engage in an activity with more skilled partners and gradually take on more responsibility as their skill and understanding of the activity increases. Such learning has been described as apprenticeship.[13]

Future teachers not only learn to apply these principles, but also develop a clear sense of how these principles were derived and why they are important in designing culturally compatible instruction. When such principles are learned with understanding, they are more likely to become a part of the future teachers' knowledge base and belief system, which in turn will ensure long-lasting commitment to these principles.

These principles and concepts are emphasized, reinforced, and operationalized in all the courses, particularly the methods courses (see articles by Hao and by Picard and Young, this issue).

Developing Cultural Sensitivity

PETOM's culture and cognition course emphasizes the development of cultural sensitivity. The focus, however, goes beyond just an awareness of our own cultural prejudices and stereotypes. While future teachers do learn to recognize their own prejudices and stereotypes, they also develop a clearer understanding of many of the reasons for stereotypes and prejudices, especially those related to issues of school success; they learn about reasons why ethnic minority children are underachieving; they examine theoretical explanations linking specific language experiences to variations in school achievement. For instance, a poor match between parent-child and teacher-child communication patterns contributes to the low school success of minority children.[14] Heath's work[15] clearly shows that while the language experiences of black working-class children at home are rich in linguistic and cognitive content, they do not match the questioning rituals and communication routines typical in school.

PETOM believes that cultural sensitivity, coupled with in-depth understanding of the sociocultural contexts of learning and of the possible areas of mismatch between home and school learning, can create in future teachers a sincere commitment and desire to create bridges between children's culturally acquired learning styles and the traditional model of schooling.

Analyzing Relevant Cultural Features

Not all cultural features are of equal educational importance. PETOM's future teachers learn a framework for analyzing relevant variables in multicultural classrooms to allow them to adapt their teaching to a way that seems most appropriate for the particular group of children they are teaching. This framework is based on Tharp's[16] delineation of four classes of variables that have been studied most in tailoring classrooms to children of different cultures: (a) social organization, (b) sociolinguistics, (c) cognition, and (d) motivation.

Social Organization. The typical whole-class organization, with rank-and-file seating and a teacher who instructs the whole group, may not work well with some cultural groups when it prevents their use of accustomed learning strategies. Tharp[17] provides many examples of the variations in organization that have been tried out with different cultural groups. For example, the small-group organization of KEEP classroom allows the collaboration and peer-assisted teaching that is typical in Hawaiian households.[18] However, the same-sex, rather than mixed-sex, composition of small groups was a necessary adaptation of KEEP in Navajo classrooms.[19] In another example of linking social practices and organization between home and school, group interactions and competition were used for instructional purposes in classrooms to capitalize on ghetto children's intense and sensitive peer relationships and physical expressiveness.[20]

Sociolinguistics. Similarly, the enormous differences in sociolinguistic conventions between cultures—rules for turn-taking, wait-time, rhythm or tempo of speech, conventions for acknowledging comprehension of partner's speech—can lead to incompatibility between home and school interactions.[21] Often it becomes necessary to adapt expectations, for instance permitting overlapping speech as in the *talk-story* interaction pattern preferred by Hawaiians rather than insisting on the usual turn-taking preferred in the classroom question-answer routines.[22]

Cognitive styles. Differences between holistic versus analytic approaches to learning have also been observed among cultural communities related to their particular patterns of cultural socialization. For example, a holistic/visual pattern of cognition is associated with an entire "observation-learning complex" of socialization that emphasizes observing first and learning by doing rather than by verbal instructions.[23] Programs have been designed to favor holistic and visual teaching strategies, capitalizing on these cultural preferences to make the programs more culturally compatible.[24] However, PETOM's position is that the teacher should have a range of activities to encourage the development of all learning styles, such as the *4MAT* teaching approach.[25] Not only will every class have children with different learning styles, but also teaching only to the favored learning style in a particular minority group will restrict their later opportunities. Ideally, education should develop all learning styles in an individual.

Motivation. Finally, motivational factors can also be tailored to particular cultural groups to make a program or instructional process more culturally compatible. For example, the reinforcing values of particular classroom conditions and events were observed to be quite different among Navajo and Hawaiian children. While *time-out* from social interaction during recess is a sharp punishment for Hawaiian children, it is not so for Navajo children who are quite content to be alone.[26]

Although the framework and principles are taught and illustrated using model programs, such as KEEP, the emphasis in the Culture and Cognition course is on the principles and on the framework. This lets the future teachers learn how to adjust their instruction according to relevant, but variable features in their pupils' cultures.

Ensuring Successful Application

In addition to discussion of the theory and the concepts for adapting classroom instruction to underachieving minorities, there are very specific things PETOM does to ensure its graduates successful application of their knowledge when they become full-fledged teachers of minorities. By recruiting future teachers who want to work with underachieving minorities in the public schools, PETOM ensures that it has highly committed students. By integrating the concepts and framework for cultural compatible education into other PETOM courses, particularly the methods courses, there is ample opportunity to translate this framework into instructional practices and to try out these practices during the field experience. By working extensively in public schools and at Kamehameha Schools, the future teachers are able to see and participate in culturally-compatible classrooms.

Summary

PETOM's unique approach to dealing with cultural issues in education have been briefly presented in this paper. The central assumption is that the education of children can be more effective if they are taught in a context meaningful to them and through a process compatible with their natal culture. On this premise, PETOM strives to provide future teachers with (a) an understanding of and commitment to the goals of creating culturally compatible classrooms and (b) the analytic framework that enables them to tailor their own classrooms and instructional methods to the manner most appropriate for the particular group of children they will be teaching.

Footnotes

[1] Jordan, C.J. "Cultural compatibility and the education of ethnic minority children" in *Educational Research Quarterly*, *8*(4), 1984, 59-70. Also, C.J. Jordan, "Translating culture: From ethnographic information to educational program" in *Anthropology and Education Quarterly*, *16*, 1985, 105-123; R. Tharp, "Culture, cognition, and education: A culturogenetic analysis of the wholistic complex," *paper* presented at the Conference of the Institute on Literacy and Learning, University of California, Santa Barbara, 1987.

[2] Vygotsky, L. *Mind in Society: The Development of Higher Psychological Processes*, Cambridge, MA: Harvard University Press, 1978.

[3] Rogoff, B. *Apprenticeship in Thinking: Cognitive Development in Social Context*, New York: Oxford University Press, 1990.

[4] Tharp, R.G. and R. Gallimore. *Rousing Minds to Life: Teaching, Learning, and Schooling in Social Context*, Cambridge, England: Cambridge University Press, 1988. Also, Rogoff, *op. cit.*, see Footnote 3.

[5] Tharp, R.G. "Psychocultural variables and constants: Effects on teaching and learning in schools" in *American Psychologist*, *44*(2), 1989, 1-11.

[6] Rogoff, B., C. Mosiel, J. Mistry, A. Göncü. "Toddler's guided participation in cultural activities" in *Cultural Dynamics*, *2*(2), 1989, 209-237.

[7] Vygotsky, L. *Thought and Language*. Cambridge, MA: MIT Press, 1962. Also, Vygotsky, *op. cit.*, see Footnote 2.

[8] Tharp and Gallimore, *op. cit.*, see Footnote 4.

[9] See G.E. Speidel, ed. "KEEP—The Kamehameha Early Education Project," *Educational Perspectives* (special issue), *20*(4), 1981. Also, Tharp and Gallimore, *op. cit.*, see Footnote 4.

[10] Tharp, *op. cit.*, see Footnote 5.

[11] Pai, Y. *Cultural Foundations of Education*, Columbus, Ohio: Merrill Publishing Co., 1990.

[12] For example, see S.B. Heath, *Ways with Words: Language, Life, and Work in Communities and Classrooms*, Cambridge, England: Cambridge University Press, 1983.

[13] Rogoff, *op. cit.*, see Footnote 3.

[14] Michaels, S. and C.B. Cazden. "Teacher/child collaboration as oral preparation for literacy" in B.B. Schieffelin and P. Gilmore, eds., *The Acquisition of Literacy: Ethnographic Perspectives*, Norwood, N.J.: Ablex, 1986.

[15] Heath, *op. cit.*, see Footnote 12.

[16] Tharp, *op. cit.*, see Footnote 5.

[17] Tharp, *op. cit.*, see Footnote 5.

[18] Jordan, *op. cit.*, see Footnote 1.

[19] Vogt, L., C.J. Jordan, and R.G. Tharp. "Explaining school failure, producing school success: Two cases" in *Anthropology and Education Quarterly*, *18*, 1987, 176-186.

[20] Williams, M.D. "Observations in Pittsburg ghetto schools" in *Anthropology and Education Quarterly*, *12*, 1981, 211-220.

[21] Tharp, *op. cit.*, see Footnote 5.

[22] Jordan, *op. cit.*, see Footnote 1.

[23] Tharp, *op. cit.*, see Footnote 1. Also, B. Rogoff, "Adult assistance of children's learning" in *The Contexts of School-Based Literacy*, T.E. Raphael, ed., New York: Random House, 1986.

[24] Tharp, *op. cit.*, see Footnote 5.

[25] McCarthy, B. *The 4MAT System*, Barrington, IL: Excel, Inc., 1987.

[26] Tharp, *op. cit.*, see Footnote 5.

Methods: A New Perspective

Ramona Newton Hao

A controversy exists in the field of education over whether preservice education for elementary teachers should be accomplished through generic or content-area specific instruction. Like most controversies, there are points to be made for each view.

In the generic approach, teaching strategies are introduced and applied across a variety of content areas. For example, inquiry or problem solving is first learned by prospective teachers and then used to teach science, language, and math content. The assumption is that there are common teaching skills and strategies that can be generalized across content. Berliner[1] suggests that decision-making skills, structuring behaviors (e.g., the provision of clear directions, objectives, review, and advance organizers), techniques of organization and management (e.g., cooperative learning and behavior management) and certain strategies (e.g., questioning, problem solving and inquiry) underlie all teaching.

In the content-specific approach, instructors in each content area select and teach those strategies most useful and relevant to their content. Future elementary teachers take a separate methods course in each of the subject areas—usually language arts, mathematics, science, social studies, art, music, and physical education and health. The argument for this approach is that there is limited transfer of learning across content areas, that certain strategies are more important than others in different content areas, and that even generic strategies need adaptation to the different areas. The teaching of content, in and of itself, is thought to be an important part of methods courses. The content-specific approach has been and continues to be the approach of choice of most preservice teacher programs.

How does PETOM deal with this controversy?

In the PETOM core methods courses, we focus on the learning and teaching principles that underlie most teaching (see Picard and Young, this issue). The goal of these courses is to take the general learning and teaching principles, the theory from the other PETOM courses, and the students' experiences from their liberal arts courses, observation-participation (OP) classrooms and personal background and help the students to pull this diverse information together into a coherent whole. This is done by providing a high-trust, high-risk environment for exploring teaching and learning strategies and by building bridges from what is known to the new, asking questions, combining and recombining techniques and concepts for differing needs and problems.

In order to accomplish this interweaving, we take the best of both approaches, providing instruction not only in generic teaching strategies, but also interspersing content-specific modules that focus on the unique selection and adaptation of teaching strategies within each subject area. Combining the approaches eliminates the repetition of basic information and strategies that are ordinarily a part of each content area methods course. It allows the prospective teachers to gain content-specific knowledge, techniques, and strategies; it allows them to observe good models and practice teaching in each of these areas; it allows them to see similarities and differences among strategies and in the ways of applying the same strategy (e.g., questioning) across different content areas, thus helping the students develop flexibility in their use of these strategies. Finally, combining the approaches makes it easier for the future teachers to explore and practice integration across subject areas.

How does the combination of approaches work?

A single instructor, the methods instructor, teaches and coordinates three consecutive methods courses, one in each of the three semesters prior to student teaching. Having the same instructor for all three courses makes it possible for the students to develop a coherent theory of teaching and for each course to build directly on the knowledge, skills, and activities of the prior course(s).

However, a single instructor cannot be an expert at identifying, adapting, and teaching the methods most appropriate and effective in each content area. Therefore, content area instructors, experts in their own field, work with the methods instructor to plan and teach modules within the context of the methods courses. In order to do this planning and teaching, each content instructor studies his/her own discipline and determines what needs to be taught over and above the generic methods to equip the future teachers to become effective elementary classroom teachers. The methods instructor and the content area experts meet frequently to discuss student needs and to plan so that each instructor has a good knowledge of what the students already know and what they have already experienced.

The content area instructors teach periodically in the core methods courses during the three semesters. In the first semester, each subject area instructor meets with the future teachers for one, two-hour session to introduce the subject area (see articles by Young, by Picard, and by Pickens for more information). Each subject area instructor then conducts a module, a series of four to eight, two-hour sessions during the second or the third semester. In addition to the module sessions, the instructors meet periodically with the students to deal with questions and problems arising as the students try out ways of teaching in their OP classrooms.

To insure continuity and coherence for the PETOM students, the methods instructor helps the students make connections from module to module, from strategy to strategy. Students discuss how generic strategies might be applied in an upcoming content area module. The methods instructor sits in on each session of a module and in succeeding sessions helps the students to analyze, compare, and contrast the new information and strategies with what they have previously learned. As the students try out the content area methods and strategies in their OP classrooms, the methods instructor conducts problem-solving sessions, helps with materials, and provides encouragement.

Are these modules sufficient to replace a whole semester course in the subject area?

A frequent question as well as a continual concern is whether the modules are sufficient to replace a whole semester in a subject area. We have no definitive answer. Worried about not learning enough, two Cohort III future teachers chose to take a regular semester methods course in one of the subject areas that had already been covered in a module. Later, both students told the class that they had learned more about teaching the subject area in the four, two-hour sessions in the PETOM methods module than they had in the semester course. In addition, after teaching two years, a Cohort II student reported that the knowledge of teaching is what is important to bring to teaching in elementary classrooms. Nevertheless, we continue to analyze and evaluate these courses to see whether the needs of the specific content are met. Therefore, as they plan for the next cohort, the content experts look at their areas, talk to former PETOM students and to mentor teachers, and rethink the instructional needs.

The focus of these PETOM methods courses, therefore, is not on the teaching of content but on the process of **how** to teach effectively. We use content as a vehicle for learning how to teach; some content in each subject area is taught but certainly not all the content knowledge the future teachers will need. The emphasis is on attitudes, strategies, tools, and resources. We do feel that subject area content knowledge is very important; we just do not believe it should be the goal of the methods classes to teach content.

Where, then, are the future teachers to gain their content knowledge? In each of the subject areas we provide information about other opportunities for learning: other courses, workshops, books, newspapers, magazines, etc. We encourage and often demand that our students learn beyond us and bring that knowledge into their teaching.

Are there other methods courses besides the generic courses?

In addition to the modules, which are a part of the core methods courses, there are three PETOM full semester courses that operate like extended modules: Reading, Writing, and Thinking; Behavior Management; and Language Development. The Reading, Writing, and Thinking course includes the full range of learning and teaching of literacy. Since children read, write, listen, and speak in all subject areas, we feel that techniques for interactions over reading, for constructing meaning from text, for getting thoughts into writing, and for listening and speaking underlie much of teaching and thus need an extended amount of time for PETOM students to acquire and practice. In a similar way, classroom management and language development methods and techniques can be used in all subject areas and require an extensive amount of instructional time.

As with the other modules, theories and practices from these "extended" modules are pulled together and linked to other teaching objectives in the core methods course. It is in the OP classrooms that these techniques and strategies are then applied and practiced.

What are the teaching techniques of the instructors?

Teaching future teachers carries a tremendous responsibility. Methods instructors can affect the learning of thousands of elementary students through the future teachers they instruct; therefore, **how** these methods courses (and all PETOM courses) are taught is as important as **what** is taught. From an instructor's point of view, practicing what is preached is far from easy. It is much easier to tell the future teachers how to do something or even to demonstrate the technique on a one-shot trial with elementary students than it is to model that set of skills continuously during the instruction of the future teachers.

For example, since cooperative learning in various forms is one of the techniques we want the future teachers to use when they teach, we use cooperative learning as one of the teaching and learning techniques in the methods classroom. Not only do we use cooperative learning as a technique during lessons about cooperative learning, but we use it whenever the technique might enhance the learning of these future teachers. Another example is the modeling of responsive teaching. If we tell the future teachers to be responsive to their young students in the classroom, and we as instructors are not responsive to the needs of our own students, will these future teachers really become responsive teachers when instructors are not around to grade or reinforce this technique?

Instruction in the core methods classes, then, proceeds in a three-layer fashion. On one layer, the future teachers learn about methods for teaching the young students in their OP classrooms and the students in their future classrooms. On another layer, the future teachers experience these same techniques as they are being taught in order to learn better themselves. On the third layer of instruction, the future teachers get to try out the techniques and strategies on each other in the methods classroom and then with young children in their OP classrooms.

By proceeding in this three-layer fashion, the future teachers (a) develop a better feeling for the young students' experiences and viewpoints, (b) see the technique modeled by the instructor, and (c) find it natural to progress to experimenting with the technique in their OP classrooms.

In order to make this three-layer mode of instruction work, there must be what Fred Newmann calls *substantive conversation*[2] in the methods classroom. The future teachers must formulate and ask questions, explain themselves to their peers, their instructors, and OP teachers, and thereby refine their own ideas. Similar to the elementary students with whom they will use the technique, the future teachers thus "transform declarative knowledge into applied, integrated knowledge."[3]

In sum, learning and motivation are increased by the use of varied classroom teaching and learning methods, methods that are effective for young, elementary students as well as for college students.

How is a generic method applied across content areas?

Effective questioning is a generic skill (see Picard & Young, this issue) in the sense that there are certain characteristics of effective questioning techniques that all teachers need to know and practice: for instance, asking open-ended questions that require predictions or conclusions, asking questions to help students synthesize information from different sources, and waiting for children to answer in order to provide thinking time.

Of course teachers would not ask the exact same questions in teaching a concept in mathematics as in teaching a concept in science or art. However, a prospective teacher who knows about and has had practice in formulating questions with the above characteristics might ask in a reading lesson, "Tell me what the story is about," or "What do you think might have happened if she had not gotten her wish?" rather than "What color was Jenny's skirt?" or even "What did Johnny do after he went to his room?" In mathematics, the teacher might ask students to "use a calculator to predict what happens to a product if one factor stays the same and the other factor is doubled? Is cut in half?" (Picard, this issue) rather than "use the calculator to calculate the answer to 753 X 2075." And a teacher might as an opening question of a science discussion ask, "What do you observe about your leaves?" rather than "How are the shapes of your leaves different?"

Some of the other general strategies of questioning we teach and give students practice in are related to the following: levels of questions, from detail to evaluative; validation of answers; relationship between question and answer; questioning as an instructional tool as opposed to questioning as an assessment tool. Furthermore, the future teachers learn to phrase questions to promote certain kinds of answers and certain ways of thinking in their students; they learn to sequence questions to help their students arrive at answers by themselves; they learn to create an environment to help their students become skillful questioners. These aspects of questioning all promote student ownership of the learning process.

What are some ways methods instruction can be integrated?

There are different ways to integrate the instruction of teaching methods and strategies across subject matter—by topic or content, by principle or concept, or by problem. The descriptions and discussions of the science and art modules (see articles by Young and by Pickens, this issue) give an example of one way in which methods instruction was integrated for the PETOM students, that is, by content material used—leaves.

First, leaves were the subject matter in the science module where science concepts were the focus. Then leaves were the focus of the drawing experience arranged for the PETOM students in the art module (see Pickens, this issue). This drawing experience reinforced the science concept of venation (see Young, this issue) as the students drew the details of their own leaf. Drawing leaves led directly into writing and the writing process. In fact, the initial writing assignment was given by the art module instructor and carried out by the writing instructor. As part of writing, some future teachers, particularly those who wrote expository pieces, read more about leaves; they read each others' pieces and asked questions and gave feedback during conferencing. Both art and reading came back into the picture when the books were illustrated. The future teachers surveyed children's literature for types of illustrations and chose for themselves how they would illustrate their own books. The future teachers could have learned to block print as another method of illustrating and as a way to produce multiple copies of their books.

A second way to integrate methods instruction is around learning and teaching principles, such as inquiry to engage learners in experiential learning; in our methods courses inquiry is not only a part of science, but also of mathematics, reading and writing, social studies, and the OP experience.

A third way to integrate instruction is around problems, questions or projects. As an example, in the third methods course, each student plans a unit of instruction to be taught during the fourth semester in student teaching. The unit plan needs to demonstrate integration of the different subject areas along with appropriate organizational and instructional strategies and activities that would be interesting and meaningful to children of different learning abilities and learning styles. Each content area instructor serves as a consultant in this process at the PETOM students' initiation. Moreover, from time to time some of the content area instructors participate in a question-and-answer panel session as part of the core methods course.

Conclusion

Beginning teachers tend to fall back on techniques and strategies gained not from their methods courses but from their experiences while being taught during their own past schooling and from their experiences with their mentor teachers. We as PETOM faculty, by developing a more coherent and cohesive set of methods courses that mesh closely with theory courses and with the extensive field experience (see Kent, this issue), hope to have a greater effect on the future attitudes, expectations, and instructional practices of our PETOM prospective teachers.

Footnotes

[1] Berliner, D.C. "Making the right changes in preservice teacher education" in *Phi Delta Kappan*, 1984.

[2] Cox, Mary W. "Rethinking the American school" in *Chalkboard*, *28*(2), 1990.

[3] Newmann, F., as quoted in Cox, *op. cit.*, see footnote 2, 12.

BEST COPY AVAILABLE

Miss. Monica

I realy don't Know how to explain how helpful and wonderful you have been to me and the other students. I think you whould make a super teacher in the future And who ever is in your class should be considered luky

Love,

Jenny

Methods: Teaching and Learning Principles

Anthony J. Picard
Donald B. Young

> *We've got to join (together) the universities and the schools in creating settings that are renewing, where cohort groups of young people come, work together, and talk, eat, sleep the business of being a teacher as a cohort group.*
>
> *(John Goodlad, February 28, 1990)*[1]

What is it that makes PETOM (Preservice Education for Teachers of Minorities) unique among teacher education programs in Hawaii? What makes it work? We think there are several significant features that give PETOM the integrity and cohesiveness that make it successful. Among these features are a common sense of purpose (the focus on preparing teachers to teach children of culturally different backgrounds), a team approach to staffing, a set of common pedagogical beliefs among the staff, modeling of effective teaching strategies by faculty, integration of content areas, continuity of theory and practice, and student self-analysis and reflection. While some of these features may also be considered teaching/learning strategies, they are, nevertheless, pedagogical principles significant to the PETOM program.

Most programs for preparing elementary teachers do not have a single focus among the methods instructors, nor do they help future teachers understand the cultural diversity of children in elementary schools. Few preservice programs provide a means for educators to work cooperatively, to share their biases about elementary education, to talk about the similarities and unique features of their disciplines, or to share ways to integrate the subject areas into meaningful elementary education. Few programs are staffed by methods instructors who model effective strategies for working with underachieving students. Few preservice programs provide the opportunity for prospective teachers to go from methods classes to real classrooms to establish the continuity of theory and practice and then have their new knowledge reinforced and expanded through follow-up discussions with the mentor teachers, their methods instructors, and each other. PETOM provides opportunities for all of these things to occur.

A major feature of PETOM is its committed staff. In the face of numerous obstacles we have come together in commitment to the program. It has led to an unanticipated outcome, our own professional growth. Traditional instruction for preservice teachers is scattered among different faculty members who rarely talk with one another. No single group is responsible for seeing the preservice teachers through their entire program. As Eisner[2] pointed out, university faculties may be even more isolated than elementary classroom teachers. Teacher educators rarely know what the other is teaching and rarely, if ever, observe one another teach. PETOM has provided an opportunity to break down this isolation.

As instructors of the methods strand, we have opportunities to communicate what we teach, how we teach, and what we believe about elementary education. We found that there are remarkable similarities in our approaches; that the teaching of science, math, art, social studies, and language arts really are compatible and can be integrated in elementary classrooms. We have also discovered some of our underlying differences, and this has been most exciting.

We share a commitment to field-based teacher education which means we go into the field and modify and refine our coursework with classroom observations and practice. Field work is not left to another department. We interact with prospective teachers in seminars that reflect on both the methods courses and classroom practices. We see the same prospective teachers over three semesters and grow along with them.

The methods faculty share a concern about cultural differences and diversity. Though we do not pretend to know all the answers of how to teach culturally different or at-risk students more effectively, we do share some deeply held beliefs about honoring the particular gifts of each child and principles for organizing and delivering instruction to maximize meaningful education for all children.

Underlying Principles

In writing down what we believe about teaching and learning, there are times when we may not seem to be clear as to whether we are talking about the education of teachers or the education of children. The truth is that many of the principles that follow apply to both. Our expectation is that *teachers will teach as they have learned*.

Perhaps an example will help. We believe in giving learners the opportunity to engage in inquiry or problem solving. In trying to get future teachers to become problem solvers, we ask them to address what we think are interesting and important questions in content areas. We then ask them about their inquiry process to help them clarify their thinking. When they arrive at what they consider reasonable answers to these questions, we ask them to reflect on what they did, how they did it, and how they would apply what they have learned to the observation-participation (OP) classrooms. We believe this approach helps them become better problem solvers as well as give them a strategy to use with their students. While they will not ask their students to apply what they have learned to teaching, they will ask them to apply what they have learned to other school subjects and to their lives outside of school.

For each principle that follows, we define what we are talking about and discuss the implications of the principle for learning and teaching. We then give an example of how we apply the principle in teaching future teachers.

Modeling is an effective teaching/learning strategy.

Preservice teachers need to see exemplary teaching first hand. They need to learn in ways commensurate with the ways they will teach. Rather than teach through lecture and discussion alone, the methods instructors use a variety of instructional strategies to demonstrate effective teaching, in effect, modeling what effective classroom instruction might look like. Among the teaching/learning strategies modeled in our classes are cooperative learning, experiential learning, inquiry and problem solving, questioning, experimentation (both inductive and deductive), kinesthetic experiences, project work, discussion, direct instruction, mastery learning, and lecture. Some of these strategies are global, encompassing a variety of techniques, while others are more specific.

Modeling of teaching strategies is accompanied by discussion of the theory and rationale for the strategies and further opportunities to observe mentor teachers use some of the strategies with their pupils. Models of teaching that incorporate a variety of instructional strategies such as 4MAT[3] are used to organize and provide a framework for selecting and sequencing these strategies into effective classroom lessons designed to provide meaningful learning for all children. The key to good teaching is making the right decision about *when* and *how* to use *which* strategy.[4]

If a variety of instructional strategies is to be employed in the classroom, then it follows that a variety of assessment tools must also be available to teachers, not only to assess children's progress but also to modify and refine instruction. As methods instructors we use a variety of assessment tools to assess our prospective teachers. These tools include portfolios, group grades, oral and written reports, demonstration teaching, videotaping, audiotaping, self-evaluation, and group critique as well as quizzes and tests. Our students further develop their knowledge and understanding of good teaching by evaluating our teaching performance through written critique and open discussion. By involving future teachers in the assessment of our own performance and inviting feedback for the improvement of instruction, we model collegial professional development in schools.

Inquiry and problem solving are valuable ways to engage learners in experiential learning.

Inquiry and problem solving can mean different things to different people. To us inquiry means engaging students in pursuing meaningful questions that they have about their world. It means asking carefully worded questions that engage the mind to explore and encourage learners to ask their own questions. It means establishing a classroom environment in which exploration of ideas is exciting, enjoyable, and non-threatening to the self-concept.

Problem solving occurs when the learner has no established or easily accessible procedure for answering some question, the learner has a *need* or a *desire* to answer the question, and the learner *tries* to answer the question.[5] Any problem situation for which the learner immediately comes up with an answer or a routine for finding the answer, is not a problem for that learner. It also means that a "problem" in which the learner has no interest will not engage the individual in meaningful learning.

Inquiry teaching requires that teachers develop techniques and strategies that avoid rewarding the quick, "right" answer; strategies that seek evidence for answers, that engage students in thinking, writing, and talking about why their answer is correct; strategies that ask students to consider what other possibilities might be. We work patiently with the future teachers to model and to help them develop questioning strategies that clarify, focus, extend, lift, or summarize what is known about the topic under investigation. We help them develop techniques that engage children in listening to others and in disagreeing with others without attacking the other person or withdrawing into silence.

Discussions become enriched by the different conceptions that children bring to their classroom experiences, especially in multicultural classrooms. Everyone in the classroom can begin to appreciate the richness of experience that is held in cultural differences, especially if the teacher is prepared to accept all answers. Differences and misconceptions can be critically evaluated against experience. This way of teaching also requires active listening skills and careful self-control on the part of the teacher not to edit responses by substituting his/her own words. It also requires students to respect others' ideas, no matter how foreign to their own frame of reference.

Inquiry teaching means helping students deal with ambiguity. Life is not certain. We cannot predict the future; in fact, we cannot even predict the weather. A goal of education should be to equip students to deal better with ambiguity, to be able to see more than one side of an argument, to be able to change their minds as new information becomes available. Inquiry teaching can contribute significantly to this goal.

The notion of inquiry or problem solving is central to teaching and learning in several content areas. It should also be central to teacher education, but all too frequently solving problems about teaching is ignored or assumed to be one of those "on-the-job" skills, which time and experience bestow on the practitioner. The beginning teacher needs to approach the task of teaching not as a collection of memorized routines (as in, "This is the way you teach multiplication to third graders") but as a series of situations, each of which is unique and each of which requires serious reflection before, during, and after the classroom interaction.

The prospective teachers in PETOM are given many opportunities to engage in inquiry or problem solving from the perspective of their own understanding of the content areas and of the learning/teaching act. Individual and group assignments in mathematics, science, and art require the future teachers to collect and analyze data, form a generalization, or create a piece of art and share the result with their peers. In addition, in the third semester of the program, the prospective teachers undertake a major inquiry project related to teaching (see Brogan and Ohta, this issue).

Learning must be experiential, phenomena must be pursued in depth if learning is to occur, and telling is not the most effective way of teaching.

Learners need a large amount of experience and information, usually at the concrete level, in order to understand new concepts and apply them in new situations. The notion of experience as the basis for learning has very deep historical roots. Dewey, Lewin, and Piaget in this century are probably the best known proponents of experience as a vehicle for acquiring the raw data on which cognition is built. Most recently, the constructivist philosophers have proposed that knowledge can't be passed on from one person to another, but rather that each individual builds what he knows from the experiences he has.

Cognitive and psychological research suggests that without an experience base upon which to develop personal meanings, concepts are not learned in any but a superficial way. Such instruction leads to what Wirtz[6] calls *counterfeit knowledge*. In mathematics education, Skemp[7] has called this *instrumental understanding*. Without experience there is no depth of understanding that will enable learners to use or apply their knowledge. They are left with simple recall and short-term retention.

Experiential learning is even more important for instruction in culturally diverse classrooms because it provides a common starting point on which to build understanding of concepts and language. It enables teachers to capitalize on the wonderment of students about the world around them. It encourages children to speculate, imagine, and create anew. Direct experience provides opportunities to share, develop, elaborate, and sometimes change different conceptions.

Most adults have learned to rely on abstractions of experience (e.g., verbalization or symbolization) without expecting or demanding concrete experience. This style is not appropriate for children who have not yet learned to reason only with abstractions. In fact, this style may not be appropriate for any learner, but has become accepted because of the nature of schooling as we know it. Therefore, it is important for future teachers to become comfortable with learning from experience so that they can provide guidance for their students. However, they must, themselves, have "hands-on" experience with the teaching/learning process so that they can build abstractions or generalizations from which to construct a philosophy of education.

In our teaching, we model the instruction we think will have the greatest impact in elementary classrooms. For example, abundant research supports the effectiveness of hands-on teaching in science.[8] The science module, then, involves future teachers in direct experiences with leaves, monarch butterfly larvae, and sow bugs. The instructional strategies used model for the prospective teachers effective teaching of science to elementary students. This modeling is accompanied by discussion of the effect of such instruction on learners, developing a keen sensitivity to differences in learner responses to the experiences (see Young, this issue).

Learning in schools takes place in a social context and the context of the classroom includes peers as well as the teacher.

A growing body of research indicates that collaborative/cooperative learning is a more productive style for young children than learning in isolation. In Hawaii, group cooperation is a natural style of many cultural/ethnic groups. Another common observation about certain cultural/ethnic groups in Hawaii is an unwillingness and uncomfortableness to speak out in large groups. Working in small groups requires the individual to interact with peers, to listen to others' opinions, and to share and defend one's own thoughts. It develops confidence in one's ability to present thoughts without fear or ridicule. It encourages students to develop trust in others and to become risk takers.

However, simply putting people in groups to accomplish a common task may not bring about the kind of interaction in which every learner grows intellectually. It is necessary for the teacher to structure the group or the activity so that each individual takes responsibility for being the leader at some time during the learning sequence and no one individual continually dominates the group. The teacher must also develop activities so that some part of each activity is accessible to all members of the group. The task must have sufficient interest and flexibility so that the group may take ownership. Most important of all, reflection must be an integral component of the group activity.

Most future teachers have learned in traditional classroom settings in which collaboration is not encouraged and, in most cases, actively discouraged ("Don't tell him the answer, let him think for himself"; "Don't look at someone else's work, that's cheating"; "Did you do this yourself or did someone help you?"). They need to experience the benefits and practice the skills necessary to make this approach work. Even more importantly, they need to change their attitudes toward cooperative learning by reflecting on their own cognition and learning styles, and they need to realize how knowledge developed in a group setting is different from knowledge developed as an individual. Experience of this kind not only serves as a model for the kind of classroom style prospective teachers should be developing, it also models the kind of interaction that teachers can engage in for their own professional and intellectual growth. Cooperative learning groups of teachers at a particular school can address and solve the problems that are most important to them and empower them to make the changes necessary to improve their students' learning.

Within PETOM, the social aspect of learning is constantly emphasized. Our future teachers are required to do small group projects, where they must share their writing with peers and discuss and defend their beliefs. They do their observations of classroom teaching in pairs and discuss their observations with their mentor teachers and their methods instructors. The group stays together for most of its coursework. They constantly formulate and reformulate their ideas about teaching and learning, and they test those ideas in the social context of a group of individuals with similar experiences.

The learner's communication and language development play a central role in learning.

It is currently recognized in the professional literature of most subject areas that communication plays a central role in developing knowledge.[9] Language is one way for the child to make sense of experience and to make that experience available to others. Language is not a reflection of how much the learner knows; rather, the language of the learners expresses the way in which they are structuring what they know. Thus, the more learners are given the opportunity to communicate in their own natural language, the more likely it is that the teacher can know with some certainty the ways in which the learners are making sense of experiences.

The tools of communication include writing, discussing, drawing and acting out as well as reading and listening. Writing forces the learner to slow down, to put thoughts into a tangible form, to create a permanent record of experiences. To do this, the learner must take time to reflect on the form of the communication and the sensibleness of what is being produced. Writing also requires the learner to create a communication which didn't exist before. Discussion, on the other hand, forces the learner to listen to others, reflect upon what is said, compare and contrast others' thoughts and beliefs with one's own, share and defend one's own thoughts, and respect different ideas. Drawing and acting out provide the learner with a vehicle for expressing that which may not require words or for which words are inadequate or inappropriate.

Too much of what passes for communication in the classroom is teacher directed and dominated. In order for prospective teachers to develop a sense of the importance of writing, discussing and other forms of communication, they must experience these activities in meaningful ways in their own education. They must learn to take risks in expressing themselves among their peers. They must give input and receive feedback on written communication by sharing their writing with peers in small groups as well as in large groups. They must become comfortable discussing and defending their ideas without dominating or withdrawing. They must learn to value the input that peers, as well as teachers, can provide. By engaging in these activities, prospective teachers are learning something important about themselves as well as about what their students need to learn.

In PETOM, the future teachers are constantly engaged in communicating about teaching and learning. They write and share their thoughts about the content of the methods modules with their peers and their mentor and methods teachers. They discuss classroom observations with their instructors. They observe mentor teachers conducting large group discussions which encourage diverse opinions and respect all responses. They are encouraged to become risk takers by questioning their instructors and by experimenting with teaching styles modeled for them. They conduct mini-lessons with their peers and receive feedback on their performances.

Learners need to construct their own knowledge based on experience, reflection, and interaction with others.

We have already noted our reliance on experiential learning and inquiry for instruction; as Brown and Walter[10] have stated, "Coming to know is not a 'spectator sport.'" We adhere to a constructivist view of education which asserts that students come to school with a set of deeply held conceptions about the natural world.[11] These concepts form a foundation on which to build new knowledge and understandings. More often in multicultural classrooms, however, students bring alternative conceptions that may conflict with accepted conventions. Learning takes place when the learner becomes aware of inconsistencies in conceptions. This is true of teachers' developing understandings about teaching and learning as well.

Learning takes time and multiple opportunities for learners to express self-constructed understandings and test them against evidence and against what others know. When there is disagreement, time and many more experiences will be needed to help learners make new connections and construct new meanings. In this way, language development also emerges as children express their new understandings through discussion and writing. PETOM students have opportunities to experience certain teaching strategies as learners, to reflect on what they have learned, observe master teachers attempting to implement these strategies, and finally to practice this kind of teaching under supervision.

We allow the future teachers in PETOM to construct their own knowledge about teaching. We model in our methods courses that teaching is not just delivering new information. We stress that there is no one right way to teach; each learning/teaching encounter requires the teacher to plan what will be done, to modify that plan in response to what actually happens in the classroom, to reflect on what has happened, and to ask, "What have I learned; how will I do this differently next time?"

Knowledge is making connections among ideas.

In the real world, learning is not broken up into 20 minute segments dealing with different subject areas, and yet we continue to teach children as if it were. All children, but especially those who are underachieving, need to see how new knowledge is related to what they already know, how it is relevant to them, how it connects to other areas of knowledge, and to understand that real knowing comes in making those connections. Our emphasis is on the connectedness of knowledge rather than a piecemeal curriculum.

Most current models of preservice teacher education do not make the integration of knowledge a central focus of the program. Future teachers are expected to integrate a knowledge base that is generally fragmented and segmented for them during their preservice education. Each faculty member treats his/her specialty as paramount and knowledge of that specialty as the only subject worthy of serious investigation by learners. While this situation may produce moderately informed scholars, it does very little to help prospective teachers develop a coherent view of the knowledge base that they are expected to help children acquire. Moreover, this fragmentation extends to the theoretical framework from which the prospective teacher is supposed to construct a philosophy of learning and teaching. Each faculty member may espouse a different learning theory and educational philosophy. The future teachers must negotiate their way through this minefield and may never develop a mature perspective of the interrelatedness of different areas of knowledge and the need for a logically consistent view of children, learning, and teaching.

In the methods courses, modules on each subject area are taught by experts in their disciplines. Emphasis is placed on the nature of the discipline and on the teaching strategies of greatest importance to understanding each discipline. What ties the modules together is a common focus on helping future teachers understand the similarities in instructional approaches among the subject areas and how understandings from one discipline can be related to another. By focusing on the integration of subject areas, our interdisciplinary team is able to help future teachers prepare for teaching in schools where the expectation is that each teacher will teach and integrate all subjects to all children.

Each module instructor also places emphasis on how teaching his or her subject area is related to other subject areas. For example, in the model science lesson on plant leaves (see Young, this issue), emphasis is placed not only on how to teach the processes of observation, comparison, measurement, categorizing, and concepts such as venations, monocot, dicot, simple and compound leaf patterns using experiential learning, but also on how math concepts such as size shape, number, and skills of measurements are developed or reinforced. The lesson also shows how art activities are a natural extension of the science lesson and can add new dimensions to understanding the structure and function of leaves, and how vocabulary, oral communication, and writing are easily developed out of the science lesson.

Similarly in math, the sessions on sorting geometric shapes by size shape, angularity, and other properties lead to discussions of how classification provides the basis for definitions derived from observations of properties. These observations and definitions can be extended to natural phenomenon. The shapes themselves can be arranged in aesthetically pleasing patterns. Discussion of the significant properties and subsequent written records not only refines and reinforces the definition, but also improves language skills and develops confidence in children.

Effective teaching means responding to individual needs.

In PETOM our mission is to prepare teachers to be successful in teaching all students, but especially those of culturally different backgrounds. As Goodlad[12] recently pointed out, "There is a moral responsibility of teachers to that little word 'all.' That doesn't mean 'some left out'. . . .You don't require a child to go to school and then block off his access to knowledge."

Research on multiple forms of intelligence[13] is providing insights into the diverse ways that students learn and express what they know. In response, Eisner[14] recently stated that we need to value multiple forms of literacy. According to Eisner, literacy is the process by which meaning is encoded and recovered. Expression of what we know is constrained and made possible by the mode of encoding. By this definition, then, schools should enable students to read "texts" of visual, auditory, numerical, propositional language, and kinesthetic forms. Such multiple forms of literacy are particularly relevant in multicultural classrooms. What is required of teachers is a variety of instructional strategies and forms of expressing what is known in order to provide equity of opportunity for the diverse learners in all classes.

The recent research on learning styles has also contributed greatly to our understanding of the multiple ways students learn, their needs as learners, and the necessity of teaching with a variety of strategies.[15] For example, we know that some students are motivated to learn new knowledge when they can see how it affects them personally. Others need to know how new ideas can be used in practical ways. Some learners are curious about hidden possibilities and as yet unforseen connections, while still others are excited by new ideas simply because it is interesting to know. All these learners are present in every classroom.

Research on misconceptions held by learners in science and math is also enlightening. Teachers are not always aware of the conceptions of the world that children have constructed for themselves or, as in too many cases, that children even have conceptions different from the teacher.[16] This is particularly true in multicultural classrooms. In order to deal meaningfully with these differences in conceptions, teachers must practice accepting behaviors and active listening. That is, when learning activities are presented to children, teachers must listen carefully to what is said, observe carefully what is done, accept observations and input without prejudice, and incorporate children's input into the developing lesson. Children's conceptions (or misconceptions) will only be expressed in a safe environment.

The classroom must be such an environment in order to accommodate differences in learners.

Then how can we meaningfully respond to these individual differences? We need to include a variety of instructional strategies. Therefore, in our courses we expose future teachers to a wide range of modes of expression including textual, visual, musical, symbolic, oral and written propositional language, chant, poetic, kinesthetic, and so on. We provide instruction, insights, and practice in using models such as McCarthy's 4MAT to systematically address differences in learning styles. This focus enables our future teachers to develop an appreciation for the special gifts of one another and to begin to glimpse that each child they teach will have a unique and personal "signature."[17] Through modeling, classroom observation, and discussion we attempt to get prospective teachers to realize that they are special and can contribute something that is important; that all students are talented in some way. We believe that teachers can develop a sensitivity to cultural differences even though they may not know the culture.

In order to give future teachers experience with students who learn in different ways, they are intentionally placed for their field experiences in schools generally recognized as being culturally diverse and with high percentages of underachieving students. This is quite different from other pre-service teacher education programs in which future teachers are frequently placed in middle-class, suburban settings.

From Theory to Practice

The integration of theory and practice in the education of teachers is one of the most difficult tasks to achieve. Much has been written about the need to modify university classes based on the reality of classroom experience, and conversely, classroom teachers have been encouraged to incorporate the results of research into their daily routines and to conduct research about their own teaching. For the prospective teacher, the integration comes, ultimately, in the field-based experience.

The organization of the PETOM courses and instructors provides the prospective teacher with a continuum of thoughtful interaction from instruction in the methods courses to observation and reflection in student teaching. While traditional student teaching has emphasized modeling and imitation, we have added another dimension that includes thoughtful trial, examination, and interaction around the experience. Moreover, our students get to see not just the theoretical ideal, but a variety of school contexts and environments, the teaching of different activities, and different kinds of learning taking place. Theories take on meaning as they provide frameworks for student's observations and teaching experiences. Reflecting on the consequences of practice leads to modified theory—theory which is informed by its practice. The combination of theory, practice, time to reflect, self-study, and cooperative learning is rarely found in more traditional preservice preparation.

Ultimately, each learner is responsible for his/her own learning. Requiring learners to take ownership of course material forces them to deal with the content and try to make sense of it on their own terms. The transition from novice to expert gradually shifts the responsibility for learning from the teacher, who usually selects the goals, the content, the activities, the rate of presentation and the evaluation, to the student.

This transition must also take place in preservice teacher education. Prospective teachers must know the feeling of developing confidence in their ability to take on the role of the expert. Essential to becoming a decision maker in the classroom are structured activities in which future teachers are asked to assume responsibility for large aspects of the course, share their knowledge with peers, receive feedback, and reflect on the processes involved.

Teachers go through stages of development as they mature into competent, master professionals. Fuller's research[18] indicates that prospective teachers' concerns about teaching progress through a series of stages from self-related concerns to task-related concerns, and finally, to concerns about the impact of instruction on children. This research, further developed and supported by others,[19] implies that in order for individuals to approach, begin, and continue their teaching careers, they need many different kinds of experiences in settings where they can become increasingly more comfortable and competent with the challenges of teaching.

First level concerns are primarily self-oriented, focusing on such questions as "What am I to teach?" "Can I do it?" "Do I know enough?" Do I have the skills?" "Will I be able to control the class?" "Will the children respect/like me?" In stage 2 individuals begin to use what they have learned. They practice it. Concerns shift from the self to the task. Questions such as "How shall I organize for instruction?" "Why does it take so long to prepare?" "Will I ever get it organized?" "How can I arrange to have students doing different things at different times?" begin to emerge.

Finally, as individuals begin to master the content and techniques of teaching, new concerns begin to emerge, concerns dealing with the impact of instruction on individual children. Now, through self-evaluation, they begin to question the effect of their instruction on all students. "Are there ways I can refine what I am doing so it will work better?" "Why are some children not learning?" "How can I reach all the children in my class?"

PETOM provides unique opportunities to help prospective teachers move through these natural stages of development. Due to the sequential nature of the methods courses, we are able to help our students move from self-related concerns, very evident in their first methods course, to concerns about their impact on their students by the time they complete the last methods course. During each of the three methods courses, prospective teachers have the opportunity to observe master teachers dealing with these concerns on a day-to-day basis and to practice teaching small segments to one another and to small groups of children. Teacher development is viewed on a continuum rather than a distinct period of time that ends with graduation. Prospective teachers see their instructors and mentor teachers continually refining and learning about effective teaching. Norms of life-long, professional development for teachers are established.

Conclusion

PETOM is emerging as a significant model for addressing the needs of underachieving children from multicultural backgrounds. Courses and structure evolve as we work with each cohort of prospective teachers. We continue to learn from our failures and to improve each time. The insights we have gained in dealing with diversity in our methods courses, and especially in the PETOM focus on multicultural awareness, would seem to benefit all teachers preparing to teach in Hawaii.

Footnotes

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Art in the PETOM Curriculum

Alexander Pickens

The art module introduced into the PETOM methods courses was influenced by research conducted since 1977 at The Kamehameha School's Center for Development of Early Education. It was the purpose of this research to identify art and art-related experiences that would enhance or reenforce cognitive development and reading among kindergarten and first-grade children.

Research Antecedents

The first experimental study on "transfer of image" indicated that kindergartners who had frequently engaged in systematic art activities, particularly in making prints, were advanced compared with a control group on tests of visual discrimination and spatial relationships[1]—both skills considered to be components of the visual processing necessary in reading. The second study was based upon the hypothesis that working with clay would provide opportunities for the development of motor skills and creative thinking. It was found that the participating children made significant gains in creativity, measured by the Torrance Tests of Figural Creativity[2] as well as significant gains in cognitive thinking, as measured by Piagetian conservation tasks.[3] Another study showed that art activities accompanied by the use of certain words by the teacher prompted vocabulary growth.[4]

The purpose of the "art" and "letterforms" projects, conducted from 1979 through 1981, was to determine to what degree the introduction of visual-motor art activities with reading related materials would enhance the teaching of reading. Following two years of informal introduction of die-cut cardboard letters as elements in art-related reenforcement experiences, the Reading Reenforcement Project was monitored and carefully assessed in

1980-1981. There was clear evidence that the participating kindergarten class excelled in those areas targeted by the reenforcement activities: alphabet recognition (upper and lowercase), phonics structure, and sight vocabulary.[5] Writing, which had not been introduced extensively in the previous projects, was also a successful component of this third phase of the project.

The "Cognitive Development through Art Education" project during the 1982-1983 school year investigated ways in which art experiences may contribute to the conceptual development of elementary school children. Since art has traditionally been an important part of kindergarten, the purpose of the investigation was to determine which activities would best promote cognitive growth. A kindergarten art curriculum was planned that stressed perception, comprehension, association, verbalization, and assimilation of the child's experiences. The results of this year-long study were encouraging as the children appeared to have acquired a willingness to invest structure and meaning into relatively unstructured stimuli. This preliminary finding is exciting since it reflects a change in the way children view the world around them.[6]

Art Module

The need for an art education background among future teachers makes it necessary to supplement the PETOM generic methods course content with an art module. Using the accumulated research as a base, a module consisting of three, two-hour sessions was created. An overview of art education philosophy in the first session was followed with a demonstration classroom art activity in the second session and then a personal art experience with follow-up writing assignment, which permitted a synthesis of art, analytic thinking, and writing.

Session 1: Art Education Philosophy

The art education philosophy introduced to the PETOM students was developed by Viktor Lowenfeld, whose studies in child development and art have become an acknowledged foundation in the teaching of art in elementary schools. Originally published in 1947, and now in its eighth edition (1987), *Creative and Mental Growth*[7] is used throughout the world. Lowenfeld's theses are seemingly simple and direct: Children's growth and development are discernible in their visual expressions. Growth may be reflected in seven identifiable areas: emotional, intellectual, physical, perceptual, social, aesthetic, and creative growth. Development progresses from an infant's uncontrolled scribbles, through the schematic representation of a seven-to-nine-year-old, and continues through the quest for photographic reality in adolescents.

Session 2: Demonstration Lesson

A philosophy of art education is needed to place art in the elementary curriculum in an appropriate context. Implementing such a philosophy in the teaching of art requires knowledge and skills not immediately accessible to preservice teachers. To provide the PETOM students with an opportunity to observe a kindergarten class of 25 children participating in an art activity, I requested to teach a class of children. This demonstration was to show the PETOM students among other things how classroom themes can be extended into art activities, how art activities do not require a huge amount of materials, how the children's interest can be spurred, and how the children's language and thinking can be expanded through the art activity.

The preliminary organization included selecting an art medium to be used, in this instance tempera paint; securing needed materials (paper, paint, brushes, all available in regular classrooms); arranging for a suitable area in the room (linoleum floor, tables, drying and storage areas), and a nearby sink, water and sponges for cleanup.

The encouragement and cooperation of the classroom teacher facilitated direct contact with the children. The teacher had related that the prevalent theme of her instruction at the time was on pets. Thus, the children responded naturally and enthusiastically to the opportunity to paint a picture of a favorite pet or bird or a scene of their choice. The kinesthetic involvement of the children, and use of multiple colors in their paintings, suggested considerable identification with the experience. The completed paintings reflected individual imagination and personal use of symbols to convey ideas, and, in some cases, events and stories. While the paintings were left on the tables to dry, the children assisted with cleanup by covering the paints and washing their brushes.

There was much for the PETOM students to observe and to discuss: my strategies for stimulating the children's enthusiasm, why I did what I did, how I interacted with the children, and how I brought out their language by having them talk about their plans for the painting, the colors they wanted to use, or what they were painting. Unfortunately, immediate extensive review of the observed experience was not possible, because the PETOM students were unable to stay. The demonstration was, therefore, discussed further at the subsequent class meeting.

Session 3: Personal Art Experience

For the last session, the PETOM students were asked to meet in the art studio of the school for a personal, hands-on art experience which required their visual, analytic and cognitive skills. Since the students were asked to draw familiar objects from nature, they also practiced their eye-hand coordination.

A non-threatening assignment—"draw one of the leaves from those placed on the table"—permitted the future teachers to feel personal success with their first drawings. Repeated drawings of the leaves, which required more visual information and more skilled motor control and visual analysis, encouraged them to strive for greater mastery

THE LONELY LEAF

"Ha, ha, ha," one leaf laughed out loud. Look at him, he's got a big yellow splotch right in the middle of his leaf. Isn't that just the ugliest thing you ever saw?" And all the other leaves laughed in unison.

The lonely little leaf with the big yellow splotch looked around him. Maybe the others were right. They were perfect. They had no disfiguring marks on them. They were completely green...and perfect.

The little leaf was very quiet. He thought he could never be perfect. He would always have a big yellow splotch and no one would ever like him because of what he looked like. People, he thought, liked perfect things, not the imperfect. And besides, the other leaves said that he was ugly.

in their renderings. The discussion that followed the drawing experiences reenforced the concepts of growth and development in art, visual-analytic relationships, synthesis of art with other learning in the art curriculum, and general cognitive development. A follow-up assignment—"to draw trees"-was completed outside of class.

Synthesizing Art and Writing

The drawings of the leaves proved to be an impetus for a writing experience, which was taught by the PETOM methods instructor, Ramona Hao. When the students brought their assigned drawings of the leaves and stories to the class, Ms. Hao used these to teach about the writing process. Thus, the students, themselves, went through the writing process from first draft to finished publication in self-made books. They went through conferencing, revising, and editing; they studied illustrations in books and illustrated their own books using unusual, creative techniques. The result was a memorable collection of stories, poems, and vignettes filled with vivid literary images. Perhaps their creativity was stirred through the original experience of an hour of complete involvement in drawing a leaf while looking at it. The figure on the opposite page shows a page from one of the books thus created.

Discussion and Recommendations

The three sessions of the module provided only a cursory introduction into art education. The generic methods course appears desirable for introducing basic lesson planning and organization, but it cannot be expected to prepare future teachers with the depth of content knowledge needed to teach art proficiently.

PETOM has a unique opportunity to include in its curriculum the knowledge gained from ten years of research at KEEP in identifying the reenforcement art activities that contribute to the education of young children. Utilization of this research becomes increasingly important if the concept is accepted: Minority children learn more quickly and with greater retention from group activities involving oral, aural, tactile, and visual experiences. It would *not* be inconsistent with the goals of PETOM to design an experimental curriculum in which *all* learning is developed through "experiencing" based upon the level of student development. Certainly, the desirability of such an approach should be given serious consideration.

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A Model for Learning and Teaching Science

Donald B. Young

Kathy was late to class. Things just hadn't gone well this morning, and now she was going to be late for the science module of her methods class. As Kathy entered the class, she found her classmates already working in small groups, each busily examining assorted leaves. The instructor greeted her as she entered, handed her a data table and a handlens, and assigned her to a group. This was certainly going to be a different morning.

When Kathy joined her group, she learned that they had already been outside and collected eight leaves each. Now they were making observations of the size, shape, color, smell, texture, and other significant features of the leaves they had collected and recording their observations on individual data tables. As she looked around the room, Kathy was surprised to see each one of her classmates engaged in looking at leaves.

After a while, the instructor called the class together and asked that they describe some of the properties of leaves. A rich and interesting discussion followed as students described what they had seen, smelled, touched, and measured. Kathy was surprised at herself. She was being caught up in this description of "leaves." The instructor carefully recorded observations on the board, always using the students' own words. Kathy began to notice that he was not telling, but was directing the discussion by carefully worded questions. The information was coming from the students. She began writing some of the questions in her notebook:

> *What sizes are leaves? What shapes? What colors?*
>
> *Do they smell? Do they smell the same?*

How are the leaves similar?
How are they different?
What do we mean by "same?" or "different?"

Whenever students described a new property, they were asked to show the class as well. Then each group was asked if they had leaves that also had that property.

Then each group was asked to put all their leaves into one pile. A new kind of question: "How can you sort the leaves so that all those that are alike are together?" The groups immediately set about the task, and after a few minutes each group shared its category descriptions, while the instructor recorded them on the board. Each time a new category description was given, the group was asked to show the class the leaves. It became obvious that these leaves could be grouped in numerous ways based on their properties.

One group noticed that the veins in the leaves formed different patterns. Some ran in the same direction, while in other leaves they formed complex networks. The instructor noted that "venation" was one of the characteristics that biologists use to categorize leaves. Those that have parallel veins belong to a large group of plants called monocots (short for monocotyledonous), while those that have networks of veins (called net venation) belong to another group called dicots (short for dicotyledonous). Kathy remembered something about seeds having only one part (Were these monocots?) or two parts that could be separated (Dicots?). While she pondered her new connections, the groups were busily sorting their leaves into two categories, monocots and dicots, based on their venation.

When they were finished, the instructor focused on another observation that one of the groups had made. Some leaves seemed to have only one part, while others had many subparts. The groups were asked to examine their leaves once again, this time trying to determine what a leaf is. Someone noticed that where some leaves were attached to the stem, there was a little bump. The instructor wrote the name on the board—axillary bud. But on others, the "leaf bud" came before a complex leaf arrangement made up of many parts. The instructor pointed out that biologists have set a standard. Those parts extending from the axillary bud are considered a leaf, sometimes made up of one part (simple leaf) while other times made up of many parts or blades (a compound leaf). Immediately, the class began resorting their piles of leaves into simple and compound leaves.

As a final activity, students individually or in pairs were invited to use their leaves to create a decorative piece of art. Several techniques, using spray paints, crayons, and other media, were briefly demonstrated. Moreover, examples of products that had been created by elementary students decorated the back of the room. The class quickly fashioned interesting and creative designs with their leaves. What Kathy noticed most of all was that the art activity reinforced in a different and unique way the new ideas that they had learned today. What stood out most in the designs were the veins, shapes, sizes, *and complexity of the leaves that were used.*

Wow! So much had happened in just an hour and a half. As the class summarized what they had learned that day that they did not know before, the board was filled with new words, concepts that these simple lessons could be used to teach or reinforce in elementary classrooms. The connections to language development, math, and art were evident. But what was most surprising to Kathy was how effortless it was to learn science this way. It was natural. The instructor was also trying to point out some of the teaching strategies used that day—forming different groupings for different tasks, varying the levels of questions used, insuring "wait time" during discussion, accepting and recording all student responses, inquiry, providing for a variety of activities, and integration—but these would have to wait for further analysis later on. Kathy was already thinking about the homework assignment to find monocots, dicots, simple and compound leaves at home or on her way to class tomorrow.

Struggling with the Task

Kathy is a fictitious student in the second of five sessions in the science module of the methods courses for PETOM, the Preservice Education for Teachers of Minorities program at the University of Hawaii. But this scenario describes what occurred in that session and serves to illustrate what I was trying to model and transfer to students in the science module.

I had been presented with an impossible task. How could I take everything I know and believe about effective science teaching and condense it into five lessons that would have some lasting impact on these preservice teachers? After all, it takes at least a three credit course meeting over a semester's time even to begin to approach the task, doesn't it? My first reaction was that it could not be done, but as I began to think about the task and discuss it with my colleagues, it became a challenge that led to other significant questions:

- What is important to know about teaching science?
- How can knowledge and skills be transferred most effectively in five sessions?
- What are my assumptions about the nature of science and science teaching?
- What do I assume about the nature of these learners?
- What science and teaching strategies are appropriate for at-risk students?
- How can science be integrated with other subject areas, such as language arts, mathematics, art, music, and social studies, in a way that students would begin to see the continuity of knowledge?

My beliefs and underlying assumptions about teaching in the generic sense are already described in the article on PETOM principles that I wrote with Tony Picard (see Picard and Young, this issue). What remains to be analyzed and described are my beliefs and assumptions in the specific area of science teaching.

Science is more than a set of facts, rules, or definitions. It is more than observing, comparing, categorizing, predicting, hypothesizing, testing, and evaluating. Science is a way of knowing about the world around us. It is an attempt to describe, explain, and appreciate the natural world. Teachers need to know this. They need to know that science is experiential and that it is social. They need to know how to create an environment in which students are engaged in activities in communication with other students and the teacher—activities that build on prior knowledge and skills to reach new levels of understanding and conceptual development.

For science, research and experience point to inquiry-based instruction, cooperative learning, questioning techniques, discussion and presentation strategies, classroom organization and management, motivation, and assessment approaches as contributing to effective science teaching. My own experience working with at-risk students in Hawaii and with disadvantaged students in Micronesia reinforced what research has revealed, that the benefits of hands-on experience in science are greatest for disadvantaged students. Meta-analyses of the effects of elementary science programs that emphasize inquiry show that disadvantaged students made significantly larger gains than their more advantaged peers on tests of process skills and content learning and in language development.[1] If the inequalities of out-of-school experiences lead to differential achievement in school, then it is critically important to base learning on topics and ideas familiar to all children, regardless of background.

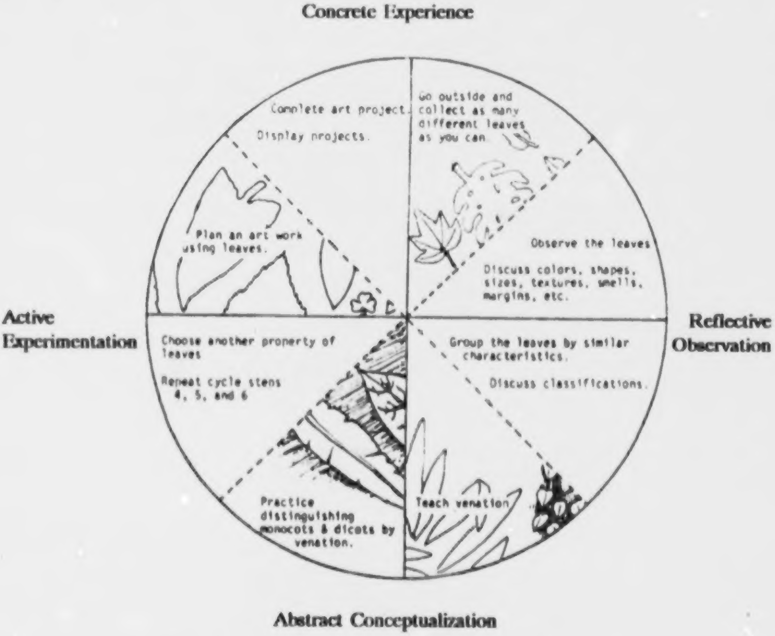
Not all children have access to museums or great books, but all observe bugs, leaves, and water; they wonder what clouds are and how they stay up in the sky; they have water coming out of the faucet and wonder how it got there; they turn on light at the flick of a switch. There is more basic background experience for science and mathematics in the everyday life of a child than for most other subjects. In hands-on science, students get to use all their senses to develop their perceptual and logical skills. These experiences contribute to the development of concepts, vocabulary, and oral language skills necessary for learning to read, a critical element for at-risk students.

Learning research suggests that without an experience base upon which to develop meaning, concepts and principles are not learned in any but the most superficial way. This is true for learning science, learning about learning, and learning about teaching. It became clear to me then that the science module for these preservice teachers had to be experiential, based on a constructivist approach to learning, and had to assist them to discover and use existing resources for teaching science so that they could become independent learners of how to teach science.

The Module

Prior to the science module proper, I had conducted four sessions on learning styles research and multiple intelligences. There were multiple reasons for this step. First, the research in these areas is so compelling, with such profound implications for classroom teaching, that all prospective teachers should be familiar with it. Second, these sessions provided a way of looking at the diversity in ways of learning and the need for using a variety of instructional strategies that are independent but complementary to the multicultural emphasis of the program. Third, models for teaching, based on the learning styles research, are available that provide a means for organizing instruction to address better the needs of diverse learners. Fourth, this background in the first methods course provided a common experiential base for prospective teachers to build upon and help organize the increasing amount of information that would be forthcoming in later courses. Finally, these areas of research are of keen interest to me for their implications for teaching at all levels.

I built upon this learning styles background in planning the five sessions of the science teaching module. I have learned over the years to organize my instruction around a set of questions to be investigated. These are the ques-


Concrete Experience
Complete art project.
Display projects.
Go outside and collect as many different leaves as you can
Observe the leaves
Discuss colors, shapes, sizes, textures, smells, margins, etc.
Plan an art work using leaves.
Active Experimentation
Reflective Observation
Choose another property of leaves
Repeat cycle steps 4, 5, and 6
Group the leaves by similar characteristics.
Discuss classifications.
Practice distinguishing monocots & dicots by venation.
Teach venation
Abstract Conceptualization

Example of instructional sequence using *4MAT*.

tions around which I designed and developed the science modules:

- Why teach science?
- What science should we teach?
- How should we teach science?
- What are the expectations?
- What are the resources?
- How can science be integrated with other subjects?
- How can the above be put into action?

Session 1—The Nature of Science

The first session gave an introduction to the teaching of science at the elementary level that would be developed more fully during the four remaining sessions. The focus of the session was on the following questions:

- Why teach science?
- What should be taught?
- What is your view?

To prepare for this session, the future teachers were asked to read an article by Mary Budd Rowe[2] that describes four different points of view on what and how science should be taught. When the class convened, four small groups were formed. Each group was assigned a different portion of the Rowe reading to analyze and discuss. After about 15 minutes, each group presented its position (based on its assigned portion of the Rowe reading) on why science should be taught, what science should be taught, and how it should be taught. My role was one of facilitator, asking clarifying, focusing, and probing questions to get the participants to think deeply about the assumptions and implications inherent in each position.

We then opened discussion to focus on the views of the class, in order to clarify their assumptions and values as well as to connect their ideas to the four stereotypic views on science education. The purpose of this discussion was not to promote one view over another, but to acknowledge that different views exist and to try to get the prospective teachers to understand their own beliefs and commitments about teaching science. During the discussions I intentionally interjected questions that related back to work that the participants had already done during the methods course on schema theory in order to help them focus on their own thinking about where science teaching and learning fit into the overall picture of elementary education.

Next, we discussed the connections between the four views of science education and learning styles. In this discussion I introduced the prospective teachers to some of the science programs and approaches that represent the different views of science education and the learning style assumptions inherent in each.

The final activity was to analyze and discuss an elementary science lesson on insects to identify its underlying assumptions about learners and the nature of science education. This activity proved most successful because its design encouraged the prospective teachers to connect back to previous work in the semester on effective teaching strategies, schema theory, learning styles, and newly recognized views of elementary science education. It was a way for the prospective teachers to begin to build connections among the things they were learning. As in each of the sessions, the prospective teachers were asked to write about the class experience, focusing particular attention on what they had learned that they did not know before and on the implications for science teaching. Each individual also shared their writings with others in small groups.

Sessions 2—Inquiry and Resources

While the first session dealt with the *why* of teaching science, the second session and the sessions that followed focused more intently on *how* science should be taught. The entire session 2, whose activities have already been described in the scenario introducing this article, was designed to model effective teaching of science at the elementary level with the prospective teachers experiencing instruction as if they were elementary students. The intent was to model inquiry teaching, effective questioning strategies, cooperative learning, accepting behaviors on the part of the teacher that build self esteem, development of process skills and thinking skills, teaching of new content, integration, and language development. Certainly a tall order for a short session, but the activities were carefully designed and sequenced to provide a common experience for all participants that could be drawn upon at a later time for analysis and discussion.

The class met in the Science Education Center of the College of Education rather than their usual classroom. This provided an opportunity to introduce the future teachers to one of the resources available to them during their preservice education and beyond. The Science Education Center houses a collection of science education programs, mostly at the elementary level, science equipment and supplies for teaching science, and a science curriculum library.

Session 3—Expectations and Resources

In the opening activity of session 3, I passed out a simulated contract for teaching in Hawaii, which states that in return for salary and fringe benefits, the elementary teacher agrees to teach toward the goals of education as outlined in the State of Hawaii Master Plan for Education and the Department of Education's Foundation Program Objectives (FPO). No one would sign it. Why? They needed to know what was included in these documents.

This led to a review of expectations for elementary teachers in Hawaii, in general, and for teaching science in Hawaii, in particular. I introduced the group to the Hawaii Department of Education's Elementary Science Curriculum Guide and created a "scavenger hunt" to find particular pieces of information included in this excellent resource, including such things as the listing and description of process skills in science, the science program objectives, descriptions of exemplary elementary science programs available as resources to teachers, guidelines for inquiry teaching, developing positive self-concept, and what to consider when selecting a science program.

As a final activity, the prospective teachers were given a sample lesson from the AIMS (Activities that Integrate Math and Science) program, still another resource for teachers, to analyze. They were asked to work in groups to identify the FPOs and Performance Expectations (PEs) that could be addressed in teaching the lesson, to develop a plan to maximize delivery of both FPOs and PEs, and to give a short report to the class on their analysis and plan. For homework, prospective teachers were asked to read several reviews of research on elementary science teaching and be prepared to discuss the findings next session.

Session 4—Modeling and Resources

After discussing the research on effective science teaching, I reviewed the previous lessons we had done together on leaves and showed the class where the activities had come from in the Hawaii Nature Study program (another resource introduced). I then modeled another inquiry science lesson.

I brought in a tray of sow bugs, a cage of monarch butterfly larvae, and sand samples from a recent field trip—not unlike the kinds of treasures brought in by elementary students from time to time. The prospective teachers were asked to choose one kind of organism, to determine what it was, to find out how to properly care for it in the classroom, and to identify what activities could be done with it in the classroom. The activity was designed so that the prospective teachers would have to use some of the information resources that had been introduced to them. My role was again one of facilitator, asking focusing and probing questions, assisting in finding information and equipment resources, and generally guiding the activity.

After the class had been organized into groups around the available organisms, I asked each group to plan one activity using the organisms. In the plan they had to specify the following:

- grade level of the activity,
- objectives (including the appropriate performance expectations),
- materials needed,
- questions they would ask of the class, and
- methods for evaluating students.

The remaining class time was spent in planning the relevant science lessons. Their homework consisted of a series of readings on inquiry in science and science teaching.

Session 5—Modeling and Inquiry

The final session focused on the question, "What is inquiry?" We began with a discussion of the reading that had been assigned as homework and proceeded to use those ideas to analyze what we had experienced together in our previous sessions. We attempted to connect back to our early discussion on "What is science?" and "What is important to teach in science?" I focused particularly on the role of questioning, the levels of questions and their effect on student thinking, and the research on "wait time."

Following the inquiry discussion, I modeled another science lesson from the new NSF funded program, Developmental Approaches in Science and Health (DASH), being developed by the Curriculum Research & Development Group of the University of Hawaii. The sample lesson served to introduce the prospective teachers to another emerging resource and reinforced inquiry and questioning strategies that had already been introduced. Furthermore, the lesson focused primarily on integration of subject areas; it integrated not only science and health, but also language arts, math, and art.

The final activity was to present a model for lesson planning based upon the learning styles research introduced in the first course. The model emphasizes a variety of instructional strategies to meet different learner needs, sequences of activities to build on what students already know, and extensions or applications beyond what is known to new situations or implications. The assignment and challenge to the class was to use this model to fully develop a sequence of science activities that they would use to teach an elementary class.

Summary and Conclusion

From an instructor's point of view, the latest sequence of sessions in the science module of the PETOM methods course has been a resounding success. The products speak for themselves. As I met with the prospective teachers at the end of their final methods course, I was amazed and impressed with the quality of the science lessons they had developed and in some cases actually taught. They incorporated the best of what science teaching ought to be. They reflected inquiry, and hands-on activities; they integrated multiple subject areas as appropriate; they involved children in their own learning.

However, I cannot take full credit. One has to remember that the nature of the PETOM coursework is such that the science module does not stand alone. The goals and objectives, underlying assumptions, and critical teaching strategies are reinforced in the generic methods courses over three semesters, and as we later discovered, in the methods modules math, social studies, and art. In addition, the prospective teachers had multiple opportunities to see these ideas reinforced in classrooms with mentor teachers.

The experience in designing, developing, and teaching the science module of PETOM has reinforced ideas that were inherent in my initial approach. The most effective science courses must teach science in the way that it is practiced, pursuing real questions about the natural world, incorporating questioning and investigative methods with knowledge about facts and concepts characteristic of the discipline. The course must be interdisciplinary in reinforcing learning in related fields such as biology, chemistry, and math. Learning activities must also be grounded in the philosophical assumptions of the discipline and establish an historical context for what is known. Finally, the content must relate to the child's real world and to societal issues.

Further, the experience has strengthened my understanding and commitment to the preparation of all elementary teachers to teach science, not just science specialists. In order to accomplish such an undertaking, teacher development must be seen on a continuum, not in distinct stages. The continuum includes undergraduate preparation, continues through the probationary period, and continues through the teaching career. PETOM has broken new ground here by nurturing the development of a cadre of preservice teachers over several semesters through a coherent, unified set of courses and experiences.

Teacher development should incorporate a theory of learning that mirrors student learning. I have affirmed my belief in a constructivist view of learning in another article in this journal. Like students, teachers need to start with what they know, in order to construct their own knowledge and theory of science learning that is developmental and based on experience, reflection, and interaction with others.

There needs to be more overlap and continuity between university courses and field instruction in teacher preparation. There should be a gradual shift from the university classroom to the real elementary world of children. PETOM has made significant changes in this direction by incorporating classroom experience over two years rather than one semester of student teaching. But we can do better. We need now to work on closer ties between the methods instructors, subject area module instructors, other course instructors, and mentor teachers. Teacher development is a joint responsibility of the universities and schools over the career of the teacher. We need to be sure that the messages of the methods classroom are reinforced in the elementary classroom and that teachers have access to the resources they need to do the job we expect of them.

Footnotes

[1] Bredderman, T. "Effects of activity-based elementary science on student outcome: A quantitative synthesis," in *Review of Educational Research, 53*(4), 1983, 499-518. Also, J.A. Shymansky, A. Kyle, and J. Alport, "The effects of new science curricula on student performance" in *Journal of Research in Science Teaching, 20*, 1983, 387-404.

[2] Rowe, M. *Teaching Science as Continuous Inquiry*, New York: McGraw-Hill, 1978.

A Model for Learning and Teaching Mathematics

Anthony J. Picard

How do you take everything you know about mathematics and the teaching and learning of mathematics and condense it into six ninety-minute sessions? That was the task presented to me when I began to work with PETOM. My first reaction was that the task was impossible. After all, it had taken me thirty years to get where I was, and having taught elementary math methods courses for twenty of those years, I knew it took time to build those subtle but substantial strategies necessary for good mathematics teaching. How could I create the feeling for my subject in students who were, if typical, probably mathphobic? How could I convey the philosophical basis on which the contemporary teaching of math is based, a philosophy which regards learners as responsible for their own learning, and which believes that mathematics, indeed all knowledge, is not acquired by passively following someone else's thinking, but by actively creating one's own knowledge, warts and all? How could I convince students who had spent most of their time in school believing in mathematics as a strictly rote, computational, abstract, often meaningless set of rules, to teach in a way with which they were not familiar and which seemed to contradict all their experience? Would they even know what I was talking about? Would they buy it? What would I learn?

My first task was to try to sort out what I believed was important about mathematics and the teaching and learning of mathematics. Most of those principles (or beliefs) have been stated in "The Teaching and Learning Principles" (see Picard and Young, this issue). Articulating them was quite a learning experience for me. I was influenced by the Curriculum and Evaluation Standards of the National Council of Teachers of Mathematics (NCTM)[1] and by contact with several mathematics educators who exposed me to a constructivist view of learning (see Picard and Young, this issue). I knew I wanted the prospective teachers to learn in the way in which I wanted them to teach. That meant that each session would involve hands-on activities, discussion, reflection and writing about mathematics. I wanted these students to solve problems in each session and I wanted them to take responsibility for their own learning. I wanted to change their perception of what mathematics is and how it is learned.

Course Content

The decisions mentioned above relate to the climate or the environment in which mathematics classes should be conducted. In choosing the actual mathematics content, I was aware that most prospective teachers' perception of mathematics is heavily influenced by computation, that the textbook would be adhered to very closely, and that the elementary mathematics curriculum guide for the state of Hawaii lists number and operation, geometry, measurement, and problem solving as the four major strands of the curriculum. Balancing these factors against the NCTM Curriculum and Evaluation Standards, I chose to start out with an overview session on the nature of mathematics and the Standards (see Figure 1 for the module syllabus). I then chose to have these future teachers focus on the nature of the four arithmetic operations (addition, subtraction, multiplication, and division). In this session, we tried to get at the meaning behind the operations by investigating ways in which the operations could be approached as meaningful activities involving the manipulation of objects and the use of natural (non-technical) language to describe and record what had taken place.

In the next two sessions, the formal algorithms (or rote procedures) for addition, subtraction, multiplication, and division were investigated. However, the emphasis was still on natural language and situations to show that the formal language and symbolism of mathematics is meaningful to the extent that it represents a record of some meaningful activity. We used calculators to develop the algorithms, not to check answers derived from memorized routines. Estimation was stressed and this fit nicely with the use of the calculators.

The prospective teachers were surprised to discover that, although they were proficient at carrying out most of the algorithms, they did not understand the operations underlying the algorithms or the mechanics of the algorithms themselves. This realization, while unsettling because it called into question what they thought they knew, allowed them to struggle with the fundamental

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MATH METHODS MODULE SYLLABUS

In the short time we have together, we are going to try to come to some understanding of what we mean when we talk about "MATHEMATICS" for elementary school children and how to go about helping them learn. In the process, we will engage in some of the same behaviors and processes (and even some of the same activities) in which they would engage. We hope that "doing", rather than just reading or hearing about, will give insights into a very different "MATHEMATICS" than the one with which you are now familiar.

At every meeting, we will:

solve problems;
use manipulative materials;
engage in small group cooperative learning;
write about and discuss mathematics.

Try to bring a simple four-function calculator to each class. A tentative schedule for the six meetings would look something like this:

Sept 11	**N.C.T.M. Standards**
Sept 13	**Concepts of Whole Number Operations**
Sept 15	**Whole Number Computation**
Sept 18	**Technology (meet in Microlab, Wist 114)**
Sept 20	**Geometry and Spatial Sense**
Sept 22	**Measurement, Statistics and Probability**

We will form small groups which will take responsibility for parts of the meetings on Sept 13, 15, 20, 22. Each small group will summarize for the whole group, and present an activity.

Figure 1. Mathematics Module Syllabus

question of how a teacher helps learners to know something other than at the surface or mechanical level.

The place of technology in the teaching of mathematics was taken up at the next session. The cohort met in the microcomputer lab and investigated software which provided different mathematical experiences, for example drill and practice, problem solving, and writing algorithms (LOGO-WRITER). The emphasis was on the integration of the technology into the teaching/learning of mathematics rather than as a separate field of study.

The next session dealt with geometry and spatial sense. The emphasis here was on intuitive, informal geometry rather than on formal, deductive Euclidean geometry, which is what most of the future teachers remembered from their previous experiences. We investigated the meaning of common geometric concepts such as area and perimeter. Once again, the future teachers had an operational knowledge of how to compute area or perimeter but lacked a fundamental understanding of the meanings of these concepts. For example, they knew that to find the perimeter "you add the length and width, and double the sum," but they did not realize that this rule applies only to four-sided figures and that the perimeter is actually the linear distance around any figure (even a circle).

The final session involved the investigation of measurement, statistics, and probability. The choice of system (conventional or metric) was not stressed. Rather, the concepts being measured, for example time, were investigated before dealing with the measuring instrument or the system of recording to be used. Statistics and probability were developed as an outcome of natural measuring activities, and the questions surrounding the gathering, recording, and interpretation of data were discussed.

In the final analysis, I came to realize that no matter which topics I chose, significant, important mathematics was going to be left out. That bothered me for quite a while until I came to accept the fact that a few quality experiences would have a more positive impact than many shallow ones. I believe, for prospective teachers as well as for children, *how* mathematics is learned is more important than *which* mathematics is learned.

A Typical Lesson

A specific example, detailing how a typical 90-minute session progressed, might be helpful. Let me describe the second session on concepts of whole number operations. Keep in mind that I'm not choosing this session because it represents the most important area of mathematics, but because it is typical of all the sessions.

I had asked the class to form small groups and told them that each group was responsible for reading a section of the NCTM Curriculum and Evaluation Standards and for creating an activity for the entire class which would, based on their reading and discussion, be appropriate for that section. At the end of the first session I met with the group who was going to take over part of the following day's agenda. I gave the group members a reproduction of the relevant section of the Standards and asked them to read it over. I asked whether they were unfamiliar with any concepts or vocabulary words, and I clarified their role and my expectations. They asked for suggestions for appropriate activities and we tried to develop tasks which made sense to them. I was careful not to tell them what they had to do because I wanted them to have ownership of whatever they did. Naturally they were a little anxious, but they agreed to do their best.

The following day we began the session by having the small group present a summary in their own words of what they had read and what they thought it meant. They shared a well thought-out activity which generated interest and discussion among their classmates. I restricted my role to observer at this time unless I was asked a specific question about the mathematics content.

Next, I asked them to engage in a writing activity to focus their thoughts on the meaning of the arithmetic operations (see Figure 2). In particular, I was trying to get at how they perceived the operations, independent of their knowledge of the algorithms necessary to carry them out. After 15 minutes, I had them exchange, read, and discuss their written statements. A brief large-group discussion followed. Finally, I asked them to add to their own paper one thought they would not have had if they had not read and discussed someone else's paper.

The next activity was a workshop for which I provided the equipment (see Figure 3). Although the class was told they could participate in small groups or in pairs, most chose to work in small groups. Due to the hands-on nature of the activities, I allowed 30 minutes for this part of the session.

During the time the class was working on the workshop activities, I moved from small group to small group, listening and observing. I would ask if they needed help, and if they said no, I moved away.

WRITING ACTIVITY 2

You are going to write for about 15 minutes on the question below. Then you are going to share your response with a neighbor and discuss what the two of you have written.

Write a story problem in natural language to go with each of the mathematical statements below:

$3 x (2 + ?) = 18$

132 divided by some number is 3 with a remainder of 21. What is the number?

Describe in your own words what each of the four basic operations of addition, subtraction, multiplication and division means; don't give examples or try to describe how to carry out the operation, but try to capture the "essence" of the operation regardless of the numbers used.

Figure 2. A Writing Activity

WORKSHOP ON CONCEPT OF OPERATIONS

1. Use the individual cubes to model the statement 6 + 3 = 9. Which group did you collect first? Which second? What would you do next? Are there any other ways to model this statement?

2. There are at least two types of subtraction to consider:
   a. If I have 7 cookies and I give 2 to my friend, how many do I have left?
   b. If I have 7 cookies and my friend has 2, how many more do I have than my friend?

   Represent each type with the loose cubes. How are these different? Are there any other types?

3. Use the BASE TEN BLOCKS to represent 146 and 78. Use the wood to (a) find the sum, and then (b) find the quotient of these two numbers. Estimate your answer first and then manipulate the materials to find a result (**do not use an algorithm to calculate an answer**). Be sure to keep track of everything you did with the blocks. Represent exactly what you did with pictures and with symbols.

4. Draw a picture to show what is meant by the statement:
   1/3 + 3/4 = 13/12.

   How could you represent division of fractions with manipulatives or with pictures?

5. Use a calculator to predict what happens to a product if one factor stays the same and the other factor is doubled? Is cut in half?

   What if one factor is doubled and the other is cut in half?

6. Which of the four basic operations are most alike? Why? Which ones could we do without? Why?

Figure 3. A Workshop

When I saw something interesting happening, which was frequently, I asked them to tell me what they were doing. I restricted my input in the small groups to questions about what was being done and how it was being done. I did not address the class as a whole during this time unless an activity needed to be clarified. Since different questions were generated in each group, my interaction with each group was different. I did not try to "unify" my input or their questions.

A short large group discussion

of the workshop followed. I did not attempt closure, nor an extensive elaboration of the activities or of their mathematics content. The students were asked to share what they had found and, once again, I restricted my questions to clarifying ones. One misconception was stated, and I introduced a counterexample in the form of a question. Some exposition of content was provided by me, but it was in direct response to student questions. I also asked the students to consider the appropriateness of the activities and the approach for the classrooms in which they were doing their apprenticeships. Naturally, because of the variability of the classrooms and the ages of the children, their responses varied.

The final activity of this session was another writing assignment in which I asked them to address these two questions:

1. How is lesson planning in math different from other areas?
2. How do you modify or avoid the elementary math text?

The students had just enough time to write their responses, and I did not attempt a sharing or discussion at that time. After the class had been dismissed, I met with the small group which was to do the next day's presentation and, essentially, repeated what I had done before but with whole number computation as the focus.

The students participated actively in all of the tasks in the session. They commented that this was the first time they had been asked to write and discuss math as opposed to just computing. Since the process was unfamiliar, they were naturally uncertain about their ability to use this approach with children. However, they were

enthusiastic about trying it because this approach gave them a feeling that math made sense and could be explained in terms of natural language and phenomena.

Conclusion

In looking back, I have asked myself what I would do differently. I do not think I would significantly change the content of the module or the approach. What I would change would be my involvement with the students in their internship classrooms and with the mentor teachers. I would assist the students in planning lessons for children. I would observe their interactions with children and, in collaboration with the host teacher, provide them with feedback on their performance. Where appropriate, I would provide the mentor teacher with information on the mathematics content and the teaching/learning strategies used in the module to give continuity to their teaching and to the students' program.

Footnotes

NCTM. *Curriculum and Evaluation Standards for School Mathematics, National Council of Teachers of Mathematics*, Reston, VA., 1989.

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Field Experience

Myra Kent

Field experience is a vital part of becoming a teacher. It provides a situation in which a future teacher can be apprenticed under the guidance of a teacher (or teachers) who has mastered the art of teaching. To prepare future teachers to the fullest before assuming the awesome responsibility of teaching a whole class for a whole year, the PETOM faculty believe that the field situation should provide (a) ample opportunity to apply theory and methodology and to practice skills learned about in coursework; (b) excellent teachers as models; (c) opportunity to compare, contrast, and reflect upon observations of the different teaching models and their effectiveness as well as upon their own teaching attempts; (d) a rich sampling of various grade levels and schools; and (e) experience with the whole range of the elementary curriculum. These opportunities should allow budding teachers to select methods and techniques that are effective for them and congruent with their personalities.

PETOM tries to accomplish this enormous task during three semesters of observation and participation (OP) and the usual semester of student teaching (in which a prospective teacher is placed full time with a mentor teacher and does a minimum of two weeks of solo teaching). The three OP semesters are very carefully orchestrated to include the following:

1. The prospective teachers are placed in different classrooms and in different grade levels.
2. The selected classrooms are mainly composed of minority children.
3. A minimum of four hours per week of OP is closely tied to the ongoing demands of the PETOM coursework.
4. A seminar is held in order to coordinate and to reflect upon the OP experiences.

To help in the orchestration of these multiple facets, PETOM has a field consultant for all four semesters. Among many other duties, this consultant assists the faculty in the development of appropriate field experiences to accompany their coursework and is responsible for the coordination and evaluation of these practicum experiences.

The operations needed to provide such extensive field experience involve careful placement of prospective teachers, selection and professional development of mentor teachers, instruction and careful supervision of future teachers during the field experience, and extensive communication among and between mentor and prospective teachers and PETOM faculty. These operations are described in greater detail below.

Placement of Prospective Teachers

To help the future teachers develop an appreciation for the children and the schools in which they will be working, PETOM places them in rural schools not normally selected by the College of Education. Currently, these placements are mainly at Wai'anae, Nānāikapono, Hau'ula, and Pope Elementary Schools, all schools in which there is a large proportion of educationally at risk Hawaiian children. A fifth school is the Kamehameha Elementary School, a private school for randomly selected children of Hawaiian ancestry. To ensure a broad base of experiences for the future teachers, they are placed usually into two different public schools and into Kamehameha Elementary Schools for the three OP semesters.

To diversify their experiences even further, the future teachers spend each semester with children of different ages. The three age categories are kindergarten or first grade, second or third grade, and fourth through sixth grade.

An effort is made to have the third semester OP placement continue into the student teaching semester. We have found this continuity to be beneficial because it allows the future teacher to observe the children's growth and the curriculum for an entire year.

Moreover, in our placements we attempt to match the personalities and styles of the prospective and the mentor teachers. Experience has shown the importance of such a match. The value of an excellent teaching model may be lost to prospective teachers because they may perceive a teaching style that is different from their preferred interaction style as poor teaching. For example, a prospective teacher who values a calm, restrained teaching manner may find an active assertive teacher aggressive and overwhelming. Prospective teachers first need to learn to assess the classroom climate and the effect it has on the children, their self-esteem and their learning.

Selection of the Mentor Teachers

The literature on new teachers reveals that one of the most powerful influences on their developing teaching practices is their mentor teacher(s).[1] Therefore, selection of mentor teachers for the field experiences is critical. Mentor teachers need to provide excellent examples of management and instruction. They must also be willing to establish a collaborative working relationship with the prospective teacher and provide time for planning, explanations, and support. Finding such mentors is not easy.

PETOM works closely with the principal of each school in selecting mentor teachers. Moreover, at several of the placement schools, consultants of the Kamehameha Early Education Program work with many of the teachers. The recommendations of the school principal and the KEEP consultants are used in the initial decision of whether to approach a teacher about becoming a mentor. Before the final selection is made, the teacher is observed by a PETOM faculty member. Furthermore, the goals and requirements of the program are described to the teacher since it is essential that a mentor teacher understand and agree with PETOM's philosophy and expectations of the mentoring role.

Observation of the development of PETOM future teachers suggests that salient characteristics in a mentor teacher are an ability to adopt a collaborative stance in working and supporting the future teacher and an ability to guide the future teacher to a growing sense of herself as taking charge of the classroom. During the semester of student teaching, the prospective teacher must make the transition from being a student who relies on the mentor teacher to the adult responsible for the classroom. This transition is made easier if the mentor adopts a collaborative relationship in which goals are set mutually and in which the prospective teacher is encouraged to experiment to develop her own teaching personality.

Professional Development of the Mentor Teachers

PETOM encourages all mentor teachers to take the Observation-Participation and Student Teacher Supervisory courses offered by the College of Education. These courses enhance teachers' understanding of their protégés—their needs, feelings, and situations—and help to develop the necessary skills for working effectively with prospective teachers. In addition, PETOM offers mentor teachers one or two days of release from the classroom to meet with PETOM faculty. During these days, the mentors learn more about the content and requirements of the coursework and participate in workshops on mentoring strategies. It is also a time in which the mentors can provide feedback for the revision and adjustment of the program.

In the future, PETOM faculty will offer an inservice course to mentor teachers at their schools. In addition to readings and discussions on teaching strategies, there will be guided observations and demonstrations of teaching techniques by the faculty in the teachers' classrooms.

Supervision and Input

The prospective teachers receive input, supervision, and feedback from different sources during the field experience. Obviously, much of the daily input, explanations, and feedback come from the mentor teachers. The mentor teachers evaluate their protégés twice each semester.

A fundamental element in the input, supervision, and feedback comes from the field consultant. She often visits the classrooms while the prospective teachers are observing or teaching. When the mentor teacher is teaching, the consultant can provide guided observations, expanding the prospective teachers' understanding of what the mentor teacher is accomplishing, or pointing out PETOM practices and their effects on learning; she can probe the prospective teachers' perceptions of events in the classroom and assist their gaining a more thorough understanding of these events.

A major responsibility of the field consultant is to assist the budding teachers in applying and practicing the theory and content of the coursework. By attending all regular faculty meetings and by talking frequently with those faculty who are teaching during a semester, she keeps abreast of the progress of the courses and the coming assignments. She observes the prospective teachers whenever possible and discusses her observations at the level appropriate to the focus or content of the coursework: behavior management, curriculum development, cultural considerations, or language development.

During the weekly seminar accompanying the field experience, the prospective teachers are guided to question and analyze the instructional style they see modeled. Mentor teachers model many, but not all, of the desired teaching behaviors and techniques. Some excellent teachers may use more traditional teaching methods than those presented in the PETOM coursework. This incongruence may unsettle prospective teachers, but provides the opportunity to compare and contrast the effects of various techniques on children's learning. The prospective teachers are encouraged to seek positive and negative aspects in their observations. This heightened awareness of teaching behaviors is then applied to their own instructional efforts and helps them analyze their own performance against the goals they have set for themselves.

The seminar is also used by PETOM faculty for live demonstrations of particular techniques or strategies. Either a faculty member or a selected teacher demonstrates a technique in a regular classroom. The prospective teachers observe the demonstration and then later discuss it with the course instructor.

Finally, PETOM students videotape themselves each semester. These tapes allow the faculty to provide input and feedback about

PETOM student analyzes a videotape with PETOM field consultant

the techniques they have covered in the coursework. The tapes also give the prospective teachers an opportunity to observe and critique themselves and their peers, while providing a record of the prospective teacher's development.

Continuous Communication: The Essential Ingredient

Communication is a fundamental part of the PETOM field experience, but also the most difficult part to achieve. First, there is the need for meetings between the prospective teachers and their mentors. Such meetings are not easily come by because both parties are extremely busy. Therefore, not only are both mentor and prospective teacher encouraged to plan for regular meetings, but also to keep in contact through the telephone, through interactive journals, or ride sharing, or any other ingenious way they can come upon. A certain amount of release time from the classroom is provided by PETOM through the hiring of substitutes.

The PETOM coordinator and the field consultant hold regularly scheduled meetings with the mentor teachers to inform them about upcoming assignments and to keep them current with program expectations. To increase future communication between the faculty and the mentor teachers, the field consultant will organize a newsletter and have regular meetings with the mentor teachers.

The ongoing planning and communication for all aspects of the program during a semester are carried out in bimonthly operational meetings. The field consultant meets with the PETOM coordinator and with the faculty currently teaching to (a) discuss each of the courses and the related OP experiences, (b) coordinate upcoming assignments for OP, (c) give feedback to course instructors on how their field assignments are going, and (d) discuss needs of individual students or of the whole group.

Finally, there are monthly meetings for the PETOM faculty in which programmatic issues as well as issues of integration and coordination are major topics. Integration is vital not only between different courses, but also between coursework and the field experiences. In these meetings the field consultant brings up such diverse issues as scheduling problems, performance on practicum assignments, and mentor teachers' concerns or needs for clarification.

Conclusion

The experience with several classrooms and teaching models, combined with time to reflect upon and analyze what is being seen, helps PETOM's future teachers develop their own styles through experimentation with techniques and strategies they admire most and lets them find out what is most effective for them. In this way, they come to develop their own teaching personalities.

Footnotes

[1] Feiman-Nemser, S. and M. Buchmann. *Pitfalls of Experience in Teacher Preparation*, Institute for Research on Teaching, Michigan State University, April, 1983.

How is PETOM Viewed by Its Graduates?

Gisela E. Speidel

There are many ways to evaluate whether a teacher education program is achieving its objectives. One of these ways is to survey the perceptions of its students and graduates.

How do PETOM graduates view their experiences? Do they value their training and if so, which parts? Do they see their education as different from that of other students in the College of Education? Do they feel they are prepared to teach, particularly minority children? After they have taught several years, do their perceptions of their PETOM education change?

The evaluations conducted on PETOM[1] have included the perceptions of its students and graduates about their education. As mentioned in the introductory article of this issue, PETOM has graduated three cohorts: Cohort I, Spring 1986, Cohort II, Spring 1988, and Cohort III, Spring 1990. Due to an ongoing process of feedback and development within PETOM, the coursework, as well as the field experience, has been different for each cohort.

Thus, by necessity the questions posed to the students have differed from one cohort to the next: each survey tried to capture the more salient features of their experiences. A systematic description of the views held by PETOM's graduates is therefore not possible. Nevertheless, the information that was collected gives a picture of how useful the graduates think PETOM has been to their professional development. In the following pages their opinions, expressed in various surveys, are presented.

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The Usefulness of Coursework in Arts and Sciences, College of Education, and PETOM

Cohort I cannot be considered a true PETOM cohort: Their preparation differed from that of regular College of Education students preparing to become elementary teachers only in having an alternative field experience. They took numerous courses in Arts and Sciences and in the College of Education (COE); their PETOM experience consisted of three semesters of observation-participation in KEEP classrooms and accompanying seminars, which emphasized learning and teaching in multicultural classrooms and the application of Vygotsky's theory to education.

In 1988, when most of the members of Cohort I had taught one or two years, they were asked in a survey questionnaire to rate the usefulness and relevance of their various learning experiences in preparing them for teaching. The results of this survey are shown in Figure 1. Displayed are the average ratings of relevance given to each of the four areas of learning experiences.

Calkins and Note conclude from this survey: "It can be seen that students considered their general undergraduate coursework as not very relevant in preparing them for teaching and that the PETOM practicum was the area of preparation seen as most relevant. Both COE and the PETOM coursework were positively valued."[2]

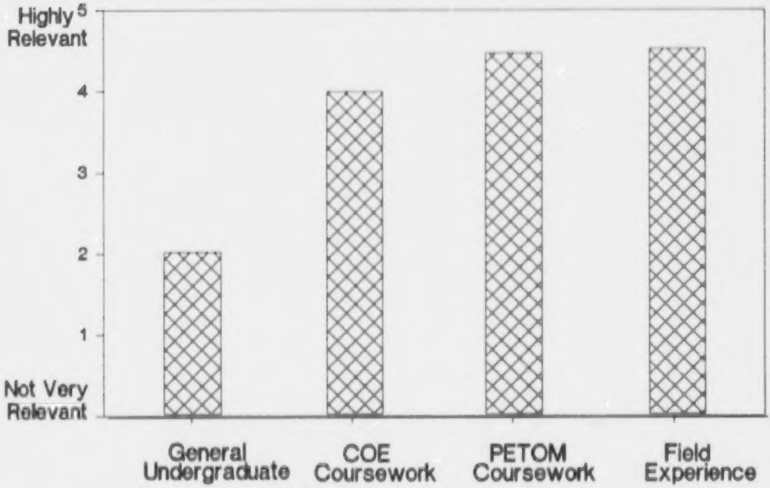

Figure 1. Ratings of Relevance to Teaching of Four Areas of Preparation

Generally, PETOM coursework was rated somewhat higher than the COE coursework. For example, PETOM coursework was rated higher on the following statements:

- "Taught you skills which helped you acquire a job,"
- "Provided the means for acquiring effective instructional methods,"
- "Prepared you to manage students' behavior in classroom," and
- "Taught you how to deal with children of different backgrounds and abilities."

However, in some areas COE coursework was valued more, as in "Acquired the knowledge base needed for teaching."

Since Cohorts II and III did not take a sufficient number of non-PETOM courses in the College of Education for comparison, this survey on the usefulness of the various forms of preparation was made only for the very first cohort.

The Usefulness of PETOM Preparation Immediately upon Graduation

The evaluations of Cohort I and II did not survey their perceptions immediately upon completion of PETOM. However, Cohort III completed a survey questionnaire in which they rated and commented upon various aspects of the program. Table 1 on the next page lists the questions and the analysis conducted on the ratings by the Office of Program Evaluation and Planning, Kamehameha Schools.[3]

The average ratings were all on the positive end of the scale, but some patterns emerged in the rank ordering. The graduates again favored the more participatory types of experiences, student teaching and observation-participation (OP), over the coursework and the OP seminars.

Furthermore, the graduates reported feeling confident about going into student teaching as the result of their PETOM preparation and feeling prepared to work with educationally at-risk students. They rated somewhat lower their strength in teaching their own classroom. This slightly lower ranking "may simply reflect some natural trepidation about making the transition to being on their own."[4]

The comments which the graduates wrote to supplement their ratings revealed that the generic methods courses—instructors and content—were very useful in preparing them for teaching. A general suggestion, however, was to emphasize the various content-areas courses more.

The graduates' comments on what they thought was the best thing about PETOM confirm that they felt the field experience to be the most valuable component in their education. Several indicated that the focus on multicultural aspects of teaching was helpful.

Nothing emerged as a glaring inadequacy in their PETOM training. Aside from the greater emphasis on content in the methods courses just mentioned, there were no general suggestions about how the program could be improved.

Table 1

Average ratings given by members of Cohort III (N=10) to questions about their PETOM education.*

Question	Average Rating
How would you rate your learning from your student teaching experience?	4.9
How valuable were your observation-participation experiences?	4.7
How prepared are you to deal with culturally diverse populations?	4.6
Were you ready to student teach after your PETOM training?	4.5
How would you rate your learning from your cooperating teacher?	4.5
How prepared are you to work with educationally at risk students?	4.4
How valuable to you was the content of the courses you received?	4.3
How would you rate your learning from your observation participation teachers?	4.3
How useful were the generic methods courses?	4.2
Rate your strengths for dealing with this population?	4.1
How effective was the instruction?	3.9
How prepared are you for your own classroom?	3.9
How valuable were the observation-participation seminars?	3.4

*The scale ranged from 1, labeled "lowest," to 5, labeled "highest."

The Usefulness of PETOM Preparation after Several Years of Teaching

In late Spring 1990, graduates of Cohort I and Cohort II were asked for information to be included in a PETOM newsletter. Two questions about their PETOM experiences were a part of the requested information. Below are the answers the students sent us.

Are you using your PETOM experience and training in the classroom? How are you using it?

Members of Cohort I answered:

- *With whole language coming to classrooms, seeing and creating learning centers was helpful. I will be developing centers for my class next year.*
- *Training in classroom management, Hawaiian culture, KEEP centers.*
- *I believe that the most important thing I took away from PETOM was the idea that teaching is researching and problem solving. More specifically, I am still using ETR (Experience-Text-Relationship, Au 1981) and educational conversation techniques.*
- *I often use positive behavior management.*
- *I am always using my PETOM experiences. Everything I learned in some way influences my daily activities in school.*

Members of Cohort II answered:

- *Yes, I use a lot of the reading methods learned, behavior management techniques, and various ideas learned from my host teacher.*
- *I use centers and small group teaching methods, I try to use a lot of "hands-on" experiences.*
- *I use behavior management ("catch them being good") and teaching strategies such as DSTA (Directed Seeing and Thinking Activity) and DLTA (Directed Listening and Thinking Activity).*

How do you feel about teaching by now?

Members of Cohort I answered:

- *There are many things to learn and to experience. It's quite challenging!*
- *After a long first two years, I'm really enjoying my job this year.*
- *Still very excited, involved, and interested.*
- *I really enjoy teaching more each year that I'm in the field. I have seen behavioral changes and maturity in my sixth graders and find it gratifying.*
- *I love it. I'm glad I chose this profession. It's challenging but gratifying!*

Members of Cohort II answered:

- *I am enjoying myself! Still busy, busy, busy!*
- *I love it. It's always challenging and my students give me so much!*
- *Love it, but exhausted!*

An informal interview with one of our teachers from Cohort II gives a somewhat fuller picture of how one of our graduates, who has been teaching first grade for two years, views her teaching experience and PETOM's role in preparing her.

How has teaching been going for you?

I am enjoying myself teaching. Last year (my first teaching year) I experimented a lot: I used many of the techniques we had learned in PETOM and many hands-on activities. This year I followed a basal program, but that wasn't so much fun for me or for the children. So just at the end of the year I did more centers again. For instance, I did a cooking lesson in small groups at centers. We made pancakes. We went over all of the ingredients and the steps needed to make the pancakes, and then we ate together. We even talked about table manners. Much learning went on—learning the names of the ingredients like syrup, learning to sequence the events and sequencing vocabulary. There's much more vocabulary learning going on in these hands-on activities. It was just great, and I want to do more of those activities again next year.

How well did PETOM prepare you for your teaching?

This coming year, our school is going whole language. My colleagues are pretty panicked. I'm not as panicky as they are and will be grade level chair for first grade. I think I feel more secure because PETOM taught us to be flexible. Also in the Whole Language Approach to reading I can use many of the strategies learned in PETOM—The Directed Reading and Thinking Activities. I liked how we learned those strategies—practicing them in the seminar. The behavior management techniques, catching the children when they are good, I use a lot. I also use various ideas I've learned from my host teacher.

The close relationship with my fellow students and with the PETOM faculty also encouraged me to share with the other teachers. Team teaching came naturally to me. There is a lot of sharing and teaming up among teachers at my grade level now. We're developing master units which we can share with each other so that we don't all have to prepare everything ourselves. We are going to meet over the summer to work on this project.

PETOM students always wish for more content information in the various subject areas. What is your feeling about this need, now that you have been teaching for two years?

I would rather go with learning about the teaching process and the teaching techniques, the way PETOM does it. You can learn the curriculum at each grade level when you need it. The curriculum content is not the hard part of teaching. Also, you don't remember all the many details in a curriculum.

Conclusion

As this report shows, PETOM graduates, in general, rate and describe their specialized experiences as helpful in preparing them to become teachers. The fact that they rate as the most valuable experience their observation-participation and student teaching is only natural. These are the situations that allow them to observe and try out what they have learned in their coursework.

What is reported in this article are personal perceptions and feelings. A rigorous, traditional evaluation of PETOM would need to compare PETOM fledgling teachers with new teachers from the regular COE program in their effectiveness with minority students. However, such a comparison under similar classroom conditions is virtually impossible. The usefulness of PETOM to the COE will need to be judged by a variety of measures of which the perceptions of the graduates are one important piece.

Footnotes

[1] Dalton, S. and G. Julnes. *Evaluation and recommendations: The 1985-86 joint program for preservice field training of the College of Education, the University of Hawaii at Manoa, and the Center for Development of Early Education, Kamehameha Schools/Bishop Estate*, Technical Report #140, Center for Development of Early Education, Kamehameha Schools/Bishop Estate, Honolulu, Hawaii, 1986. Also, G. Julnes, H. Akamine, G. Pacheco, S. Dalton, C. O'Donnell, D. Blaine, and R.G. Tharp. *Evaluation and Recommendations: The 1984-85 Joint Program for Preservice Field Training of the College of Education, the University of Hawaii at Manoa, and the Center for Development of Early Education, Kamehameha Schools/Bishop Estate*, Technical Report #128, Center for Development of Early Education, Kamehameha Schools/Bishop Estate, Honolulu, Hawaii, 1985; P. Brandon and O. Hammond. *A Formative Evaluation of the 1986-87 Preservice Education for Teachers of Minorities Program*, Report 1, 88, Office of Program Evaluation and Planning, Kamehameha Schools/Bishop Estate, Honolulu, Hawaii, 1988; NASDEC, *Evaluation*, College of Education, University of Hawaii, 1988; R. Calkins and M. Note, *Preservice Education for Teachers of Minorities: Spring 1988 Evaluation*, Center for Development of Early Education, Kamehameha Schools/Bishop Estate, Honolulu, Hawaii, 1988; O. Hammond and K. Cambra, *PETOM Evaluation Questionnaire: A Brief Report*, Office of Program Evaluation and Planning, Kamehameha Schools/Bishop Estate, Honolulu, Hawaii, 1990.

[2] Calkins and Note, p.2, *op. cit.*, see Footnote 1.

[3] Hammond and Cambra, *op. cit.*, see Footnote 1.

[4] Hammond and Cambra, p.2, *op. cit.*, see Footnote 1.

Inquiry: A Process of Investigation for Teachers

Mary Brogan
Ralph Ohta
Wendie Yumori

Foreword

One of PETOM's mentor teachers said, "I often sit and watch my class. One day my student teacher asked me the same thing that all my colleagues ask me, 'What are you doing, just sitting and watching?' I told her that I observe how my students are reacting to what I tried out this morning."

This spirit of inquiry is strongly encouraged in PETOM, which holds that teachers should try out things for themselves, experiment, and see how different approaches work. In keeping with this philosophy, PETOM instructors use the inquiry method in much of their coursework to teach content material to PETOM students. In addition, students participate in an Individual Inquiry Seminar in which each student undertakes an inquiry project of his/her own choosing and is supervised by a faculty advisor. The inquiry project is expected to be an outgrowth of students' classroom and coursework experiences and students select topics of inquiry suited to their interests and levels of pre-professional development.

The final product is a written report which documents the inquiry process the student has undertaken: the statement of the question or hypothesis, a review of the literature on the topic (if available), a description of the procedure, results, and conclusions.

It is well known that teachers continually encounter new approaches to teaching and, therefore, need to know how to evaluate them. An important goal of the PETOM program is to train students to become teaching professionals who (a) read about findings in educational publications, (b) think carefully about approaches which might work in their classrooms, (c) try them out with some systematicity in the classroom, and (d) determine their effectiveness.

The following paper, written by Mary Brogan and Ralph Ohta, is an example of the inquiry projects conducted by the PETOM students of Cohort III. The paper was selected to exemplify how teachers can use the inquiry approach to find ways of teaching that are successful for them and for their students.

Mary and Ralph describe, somewhat informally, their involvement with the inquiry process. Their interest was in students' writing; specifically, they questioned whether participation in social studies simulations has a positive effect on students' writing skills. Mary and Ralph were fortunate to be advised in the use of the Stanford Writing Assessment procedures by Dr. Marlene Lindberg, who contributed the piece, "I Want to be an Author: Development of Writing in Kindergarten," in the October 1989 issue of The Kamehameha Journal of Education.

Mary and Ralph concluded at the end of their study that they still have more questions to ponder and ideas for further study, in keeping with the sentiments of most who are actively engaged in the inquiry process. Their paper appears much in its original form, although somewhat shortened and with minor editorial changes.

Wendie Yumori

WESTWARD BOUND

A Social Studies Simulation's Effect on Writing Skills

Mary Brogan and Ralph Ohta, abridged by Wendie Yumori

Introduction

During our time as students in PETOM, we have heard from teachers and researchers that social studies simulations help improve students' writing skills. It has been said that simulations provide a meaningful context in which writing can take place and that they can help teach students problem-solving and decision-making skills important in improving writing. However, there has been no documentation of the claim that the use of simulations improves students' writing. We decided to test whether social studies simulations have a positive effect on students' writing skills for our inquiry project.

We learned that Laurie Seto, a fifth-grade teacher at Kamehameha Elementary School, planned to conduct a social studies simulation in her classroom. She had also observed, informally, that children's writing skills seemed to improve after going through a simulation. Laurie's classroom seemed to be a perfect setting in which to conduct our research.

Overview of Simulations

Simulations have been defined as instructional strategies with game-like aspects. There are a multitude of well-designed social studies simulations readily available to teachers. They run the gamut from the economics simulation of a classroom chocolate factory (including cooking, advertising, packaging, accounting, and publicity departments) to classroom museums that highlight natural history with full participation by student curators.[1] Students engaged in a simulation must become actively involved in the processes of "amassing relevant data, pondering alternatives, selecting from alternative options, and making decisions."[2]

Laurie Seto's class participated in the social studies simulation, *Heritage*[3], which takes students on a cross-country journey to 15 student-selected national parks, major historical landmarks, and monuments in the continental United States. The class was divided into racing teams that had to research specific points of interest, cope with simulated road hazards, maintain a daily log of mileage and time, and keep team diaries of the trip.

Skills Developed Through Simulations

Many concrete, identifiable skills can be developed through classroom simulations. For example, students may learn how to use diagrams and maps, research primary and secondary source materials, and develop and present oral reports. In addition, human relations skills may develop through simulations as students are provided with opportunities to discuss, debate, and persuade. In groups, they engage in problem solving.[4]

The cognitive skills needed in writing are precisely those that are required of simulation participants, for example, organizational, critical-thinking, and decision-making skills. Engaging in simulations and the writing process can help students develop and enhance methods of inquiry.[5] According to the University of California at Irvine's Writing Project, "By helping students become better thinkers, we would enable them to become better writers and vice versa."[6]

What is clear in many simulations, particularly in our observed social studies simulation, is that much writing does take place. Simulation provides for frequent reading and writing under more highly-motivated conditions than might usually occur in the classroom. According to *The Writing Report Card: Writing Achievement in American Schools*,[7] the more reading and writing students do, the higher their achievement in those areas.

Method

Our advisor was Dr. Marlene Lindberg, a researcher at the Early Education Division of Kamehameha Schools. She had considerable experience in researching children's writing and in helping children improve their writing skills. We shared our inquiry question with her and told her of our plan to do a writing pre-test and post-test with a class of fifth-grade children. We asked her if she had any advice as to how to go about implementing the measurement portion of the project. Marlene recommended that we use the *Stanford Writing Assessment Program Guide*[8] to rate the children's writings. She had used it on several occasions in the past and was familiar with the procedure. She would be able to guide us during the rating process.

The Stanford Writing Assessment measures four writing modes. They are: Describing, Narrating, Explaining, and Reasoning. We chose to rate the students' narrative writing skills as the students participating in the simulated trip were to relate what they did in narrative journal entries. Thus, the journal entries provided the context in which the students could practice writing in this mode. We hypothesized that this practice would contribute to the improvement of narrative writing skills.

Within each of the four modes of writing, the Stanford Writing Assessment specifies six different dimensions upon which a piece may be rated: General Merit; Quantity and Quality of Ideas; Effectiveness of Organization; Wording; Syntactic Structure; and Mechanics. We decided to drop General Merit, because it was not specific enough, and Mechanics, which is an optional scale. Each of the four remaining dimensions was to be rated on a five-point scale.

Training and Testing

Marlene advised us that we would need some training in scoring children's writing samples prior to rating the samples for our inquiry project. She gave each of us several sets of previously scored writing samples. After we had finished scoring each set independently, we met to compare our ratings and resolve differences. The post-resolution agreement (agreement within one score point) was 1.00 on every dimension, an indication of high inter-rater reliability. We were prepared to reliably score the writing samples of the students in our project.

A total of 15 students produced writing samples for both the pre-test and post-test. The pre-test was administered on September 27, 1989, which was the first day of the social studies simulation. The prompt that we gave to students for the pre-test was, "Think about a time when you helped someone or someone helped you. That someone can be a person or a pet. Tell the story of what happened." Seven weeks later, three days after the simulation ended, the post-test was administered. The prompt for the post-test was, "Think about a time you spent with a person you like or admire very much. Tell the story of what happened."

We emphasized that the teacher would not see the students' writings so as to free students from worrying about grades. The students' names were taken off the papers before anyone read them to insure anonymity. The students had 30 minutes to write for the pre- and post-tests.

Results

After we completed rating the papers, we conducted a t-test in order to see if there was a significant difference between pre- and post-test scores. Each student's pre- and post-test scores were compared for changes—decreases as well as increases—in scores on the four writing dimensions: Ideas, Organization, Wording, and Syntactic Structure.

The difference between the students' pre- and post-test scores was not significant for the writing dimension, Ideas. However, there were significant increases, at $p<.05$, for the other three dimensions of writing that were assessed, Organization, Wording, and Syntactic Structure.

Conclusions

The comparison of pre- and post-test data suggests that the simulations had a positive effect on students' writing skills. Possible reasons are discussed below.

The challenge and interest that students often find in simulations might have made the journal-writing activities more valuable and meaningful to them. The simulation activities might have encouraged students to read and write more, and the increased practice could have improved their narrative writing. The organizational, critical-thinking, and decision-making skills—skills often used by authors to organize and write clear and concise passages—might also have helped to improve the students' writing.

There may have been factors outside of the simulation that contributed to the increases in writing scores: grammar and vocabulary lessons during the students' regular language arts classes or writing assignments in other classes that let them practice narrative writing skills.

One suggestion for further study is to rate the same writing samples using a different writing assessment measure, to see if the results are consistent with those of this study. Another suggestion is to compare the pre- and post-test differences between students who have gone through a social studies simulation with those of students who have not. This would control for some of the other factors that might have had an effect on the outcomes of this study.

Summary

In summary, we found during the course of this inquiry project that there was a significant increase in the students' narrative writing scores in the domains of Organization, Wording, and Syntactic Structure of the Stanford Writing Assessment. However, there was no significant increase in the Ideas domain. There seems to be a relationship between participation in simulations and an increase in writing scores; however, more studies will need to be conducted to be certain that this is true.

Footnotes

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[5] Peters, *op. cit.*, see Footnote 2.

[6] Olson, C.B. "Fostering critical thinking skills through writing" in *Educational Leadership*, *42*(3), 1984, 28-39.

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THE KAMEHAMEHA JOURNAL OF EDUCATION

EARLY EDUCATION DIVISION
KAMEHAMEHA SCHOOLS

Volume 2 Number 1 March 1991

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The *Kamehameha Journal of Education* publishes articles on the education of Hawaii's children. This journal is for teachers, principals, curriculum developers, college and university faculty, superintendents, and those in political arenas; in short, it is for anyone concerned with educational matters. Journal issues center around themes such as educational program descriptions, teaching strategies, instructional settings, cultural and learning-style differences, and current educational topics, all dealing with ways Hawaii's children come to enjoy school and to succeed in it.

Published by the Early Education Division, Kamehameha Schools, Kapalama Heights, Honolulu, HI 96817. The opinions expressed herein do not necessarily reflect the position, policy, or endorsement of the Kamehameha Schools/Bernice Pauahi Bishop Estate.

The Kamehameha Journal of Education

Volume 2, March 1991

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Profile

Charles Toguchi

Charles Toguchi has been Superintendent of the Hawaii State Department of Education since 1987. He brings to this complex post an intriguing combination of professional experiences. Under his leadership, there has been an active interest in new approaches to educating our youngsters.

What are the major concerns presently facing the Department of Education?

On the top of the list, internally for the Department of Education (DOE) as well as for the public, is student achievement. The verbal performance of our students on standardized national tests is of great concern. Student achievement is the area in which we're spending most of our money. We are searching for different approaches to meet the different needs of our 236 schools. Second on our list is health and safety in our schools. I have gone to our high schools and the students are good. But there are isolated cases that give the public the idea that there is violence in our schools. We must change that. Our third concern is recruiting enough qualified people into the teaching profession. Each year we hire over 1,000 new teachers.

What changes have occurred within the DOE during your administration?

We know that the management approach we have used in the past needs to change. People become more productive when they develop a feeling of ownership. Even businesses find that top-down management doesn't build trust, doesn't build a sense of ownership. Therefore, instead of managing the school system within a top-down organization, we're looking at a management structure that is more collaborative. Education is so complex today that we need to get not only educators, but parents, businesses, and other resources in the community to contribute to educational decisions.

School/community-based management is certainly a way to go. We have well-qualified and dedicated, competent staff in our schools. They are faced with day-to-day concerns and know better than anyone else what needs to be done. The state and district offices, on the other hand, need to provide parameters within which our diverse schools can operate flexibly. I see us moving towards more of a support and service oriented organization, providing the schools with needed resources, in-service training, research and development information, monitoring and evaluation, and certified teachers.

We also need parental participation and involvement. One of our most successful projects in this regard is the establishment of Parent Community Networking Centers. In many of our centers, there is a room, complete with a coffee pot and a telephone, where parents can gather and feel at home in the school. There is also a parent facilitator, someone from the community who knows the community and its resources very well—like the person who organizes the Little League. This parent facilitator serves as a liaison between the parents, the school, and the community; he organizes volunteer parents for school projects, and he functions as an information officer, giving parents information about the school or about a particular project.

The need for joint decisions and collaboration applies to all layers within our educational system. It affects our principals, the leaders of our schools. In schools that are successful, the principals are like orchestra conductors. They bring people together, develop consensus, and set a vision for the schools. This view extends all the way into the classroom. Students need to become active learners, to dialogue, question, and do independent studies. We went through the old system—we were passive learners, we sat in the classroom listening to the teacher lecture. However, our youngsters' jobs will change over time, and they need to learn to be flexible and be able to adapt to different situations. Learning nowadays must be life-long; therefore, developing critical thinking skills is more important than the mere memorization of facts. When I was going to school, I had to memorize the 48 states and their capitals. Now I think it is more important to know where to find this information.

We are introducing a variety of programs and changes in the curriculum. We are holding workshops and doing in-service training all the time on new approaches, such as whole language.

There is much debate now nationally between different approaches to reading instruction: whole language versus phonics. What are your thoughts about the whole language approach?

Whole language is a holistic approach to teaching. Phonics can be easily incorporated and integrated into the whole language approach. The

Department makes all approaches available to teachers. We do not prescribe a specific approach, rather the schools and the teachers decide what they think is helpful to their youngsters. With different children different approaches will work. The central office's role is to provide workshops and in-service training that expose teachers to different approaches.

You have held many different positions in your career. How do these influence you in your present position as State Superintendent?

Education was a priority with me because of my parents. Mom and Dad came over from the old country. I saw their sacrifices. They always reminded me to do my homework, and they taught me the importance of a good education. I attended Castle High School and had very good teachers. Ron Bright was there; he's the English teacher who directs the Castle plays which are so well-known in the community for their excellence. Mr. Sadaji Moritsugu was my math teacher; he was my mentor and influenced me in becoming a math teacher. After teaching for a few years, I continued my studies. I wanted to become a principal. When I returned to Hawaii, the teacher salaries were so low, I left education and went into business. But I missed teaching and wanted to come back. To address the concerns that had driven me out of teaching and to pursue change, I joined the Hawaii State Teachers Association. I started lobbying in front of legislative committees, and after a while I realized that maybe the way to change things was to become a legislator. So I ran for office and was in office for over 10 years. I became Chairperson of the House Education Committee and later Chairperson of the Senate Education Committee. I never thought I would become the Superintendent of Education.

Although I didn't come through the DOE rank and file, my previous jobs did prepare me for many of the diverse responsibilities as superintendent. Hawaii's Superintendent of Education position is unique. In other states there are local education boards, each with their own superintendent who is responsible for the day-to-day operations. The state superintendent is responsible for determining the educational policies and standards for the whole state. In Hawaii, the state superintendent is also the local superintendent. I am responsible to parents, children, teachers, principals, as well as to other DOE staff. I negotiate with three unions. I report to the Board of Education, who appointed me; I meet with the Governor and am a member of his Cabinet, technically speaking; and I interact with four legislative committees, the Finance and the Education Committees in the House and the Senate. In my work, I am directly connected with a half-million people. It's a juggling act—a very challenging job. But I feel at home because I am a parent, and because I was a teacher, a negotiator for the teacher's union, and a legislator.

Hawaii has many different ethnic groups. How does this affect education?

Our youngsters are very fortunate in that they are able to experience so many different cultures. Last year, in recognition of our partnership, the city of Fukuoka in Japan invited 1,000 ten-year-olds from the Pacific Basin countries to a children's convention. Forty of our public school youngsters were selected to go. I saw them off at the airport. Here were these ten-year-olds hanging on to their moms and dads, and I was asked to speak to them. I told them, "You have nothing to be afraid of; you're going to be the leaders of the convention." They looked at me, puzzled. "Well," I said, "when you get to Fukuoka, the food is not going to be foreign to you, because when you go to your family gatherings you see all kinds of different ethnic foods—kim chi, sushi, noodles, and you won't have trouble eating rice with chopsticks. You'll see children from Japan, China, Samoa, and other places. But you're not going to think twice about their faces, because when you go to school you see all those different faces every day. Languages—when you go to school you hear many different languages because we have a lot of immigrants." When the children came back from their convention, they said to me, "It was no big thing. When the kids from the other countries came, we felt like we were at home in Hawaii!" Our youngsters learn from our rich cultural environment.

How have educational needs changed?

Youngsters today are faced with so many different distractions. Many children are from single parent families or from families where both parents are working. It's tough being a youngster today; it's tough being a parent; and it's tough being an educator. Schools are being asked to do more and more—responsibilities that used to belong to the family and the church are now responsibilities of schools. This is why it's more important today than at any other time to open up the DOE to various organizations and individuals. The DOE does not have the resources, the personnel, or the knowledge and experience to solve all problems of society. We need to collaborate, to network, to have partnerships with the agencies that work with our youngsters. Education is everybody's business.

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Whole Language: Some Thoughts

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Ramona Newton Hao

Whole language has swept education like a storm. Heated debates in national magazines, in legislatures, and in schools across the nation indicate the scope and power of this educational philosophy whose time has arrived. It is hardly possible to hold a conversation about education these days without the term coming up. The idea of whole language is not just a product of the reading and writing field but is a philosophy consistent with and paralleling much of the change in thinking in mathematics, science, and social studies education.

Many of the teaching strategies and activities (e.g., process writing and language experience) and goals (e.g., understanding and ownership) of whole language are not new, nor are they limited to the whole language approach. Many effective teachers have been using instructional practices proposed by whole language advocates for many years. As a matter of fact, Huey in 1908 described the Francis Parker School as a school "in which children learn to read as they learned to talk, from a desire to find out or tell something."[1] Why then suddenly is whole language having such a profound effect on education?

The main reason may be that much of what whole language encourages in the classroom makes intuitive sense to teachers. The movement aims to affirm and empower the teacher—to give teachers the right to choose curriculum and make classroom decisions. Many of these not-so-new ideas (e.g., lots of sustained reading and writing) had disappeared from the educational literature and from too many classrooms during the era of emphasis on skills, mastery learning, worksheets, and excessive criterion-referenced and standardized tests of sub-skills.

A second reason for the impact of whole language may be due to the growing concern for the quality of education in general and the need to change a system that isn't working. The demand for change from parents, legislatures, educational researchers, and teachers is overwhelming.

The whole language emphases on authentic materials, activities, and assessments, along with student ownership of learning processes, seem to be a giant step in the right direction. If materials and activities are to be truly meaningful and functional for children with diverse backgrounds, they may need to be different for different children.

This issue of *The Kamehameha Journal of Education* explores what is happening in whole language in Hawaii. The articles will give readers information about the whole language movement, whole language classrooms, and whole language teaching from the viewpoints of classroom teachers, curriculum developers, and researchers. The authors come from a variety of educational roles and represent the Hawaii State Department of Education (DOE) and Kamehameha Schools. The purpose of this introductory article is to provide an overview of whole language and the issues that have emerged as the movement has grown.

What is whole language?

In talking to twenty educators about what whole language is, you get twenty different viewpoints. In a recent study, Bergeron[2] analyzed 64 articles to compile a definition of whole language instruction. She found that the term whole language was described differently in each article except in those written by the same author. From her analysis, Bergeron constructed the following definition:

> Whole language is a concept that embodies both a philosophy of language development as well as the instructional approaches embedded within, and supportive of, that philosophy. This concept includes the use of real literature and writing in the context of meaningful, functional, and cooperative experiences in order to develop in students motivation and interest in the process of learning.[3]

This definition is too broad to help us understand much about what happens in whole language classrooms. Bergeron found only four classroom features included in more than fifty percent of the articles—the use of literature, the use of the writing process, the encouragement of cooperation among students, and the concern for students' attitude![4] Apart from these features there is so little consensus among different writers that we will, instead, concentrate on what the movement's leading proponents are saying about whole language teaching and curriculum.

According to Ken Goodman[5] and Frank Smith[6], children learn to speak the language of the home naturally, that is, without formal teaching. They learn language by being immersed in it; they use it how and when they need it—to get something they want. Why then do children find language learning at school so difficult? Goodman and others (Harste, Halliday, Newman, for example) believe that learning is easiest when it is whole, not broken into bits and pieces that do not make sense by themselves. If children are surrounded by others using language meaningfully, they will easily learn to express themselves (in speaking and writing) and understand others (by listening and reading). Classrooms, they say, should therefore closely resemble the natural situations in which children learn. Students should be doing real reading and writing with real materials in the context of solving real problems.

Following are characteristics that Goodman advocates for whole language classrooms:

1. A whole language classroom is child-centered. Whole language teachers are good "child-watchers."[7] They take children as they are and develop the environment around children's language, experiences, and interests; they make the child's individual growth, not absolute achievement, their goal. What happens in the classroom should not be decided by lists of objectives designed for the "typical" classroom. Instead, by "child-watching," the teacher knows the individual needs and strengths of her students and, consequently, sets up tasks and activities through which each will learn what he or she is ready to learn.

2. Ownership and empowerment are important to both students and teachers in the whole language classroom. Children need to own the processes of reading and writing, of inquiring and problem solving. Whole language proponents often use the word *empower*. Students share decision-making with the teacher. By "owning" (both valuing and controlling) the processes of reading, writing, speaking, and listening, students are empowered to apply those processes and thus to change their world.

Teachers, too, need ownership, need to feel they have the responsibility and the ability to make instructional decisions for students in their classrooms. Whole language teachers are empowered to make decisions about teaching strategies, materials, organization, and activities based on their students' needs and interests. Administrators do not know the learning needs and styles of each child and should not impose a regimen or a philosophy on teachers.

3. Integration is a "central motif" of the whole language classroom. Two types of integration promote learning. First is the integration of the language arts—the language processes of reading, writing, listening, and speaking. In traditional classrooms, reading and

writing are too often taught as compartmentalized subjects, and listening and speaking are largely ignored. Instead, these processes should occur as children see the need for them in the context of the tasks in which they are engaged.

The second type of integration is between language and content. Where but in schools or in school-related testing are these separated? In real life, neither language nor content exists alone. While children are exploring content, they are learning more about language and its uses. For example, children learn language as they use it to learn both content and process during a science inquiry project on leaves—while discussing various groupings of types of leaves, searching for a piece of information to prove a point about venation, recording observations on a chart, giving an oral report, writing a poem about a leaf, and illustrating the poem with leaf rubbings.[8] In this way, both language development and content can and should be goals of each activity.

4. Authentic tasks, materials, and assessments are used in the whole language classroom. Rather than promoting classroom tasks that are artificial, meaningless, and never encountered outside of school, teachers design learning activities that are useful to the child outside as well as in the classroom and help students make connections between home and school.

Materials meaningful and relevant to the student range from TV guides, bus schedules, and newspapers to historical fiction, photobiographies, and student-authored books. Whatever children need or want to read and write is appropriate. Stories or books about people and situations with which students can identify are often the materials teachers read to students and students read for themselves.

Assessment of students' growth in skill, knowledge, and problem-solving strategies is carried out during usual classroom activities. For instance, a student's writing is assessed by looking at both the process and the product. The teacher observes the student as she writes, talks to her about her writing, and looks at the writing during different stages in the writing process. The student's portfolio of work finished and in progress can be used by the student and the teacher for assessment purposes. This assessment method can also be used to measure gains in science or mathematics or any other area. Such assessment of students' work does not take away from learning time, nor is it done under artificial circumstances.

5. Topics or themes are used as an organizing structure for the activities and for the integration of language and content in the whole language classroom. These thematic units (e.g., "What are the effects of pollution on our community?") can become focal points for inquiry. Since these units are developed around students' interests and can provide for choice of direction and materials, students will readily take ownership of their projects.

6. Whole language classrooms provide time for sustained reading and writing in many forms. Stu-

dents read rather than discuss reading; they write rather than talk about writing.[9] They read to find out information they want to know; they read for enjoyment; they write letters to persuade a legislator to follow through on pollution legislation; they write to explore their ideas and feelings about the Civil War after seeing part of a mini-series on TV.

What is the controversy?

Many of the whole language classroom practices seem to make intuitive sense and do not engender much argument from others. Few would argue against the following elements: students' and teachers' empowerment; meaningful and interesting learning materials, tasks, and activities; thematic units that provide interest, coherence and cohesion to inquiry; integration of language and content to give reality and meaningfulness to learning; and authentic assessment.

So what's the controversy about? Following are some examples of concerns expressed about whole language.

Are all children going to be able to figure out new words independently without direct instruction of phonics? The most vocal opposition to the whole language movement comes from advocates of phonics who "stress the importance of teaching the relationships between letters and sounds."[10] In fact, Jeanne Chall, probably the most prominent of the phonics advocates, says that the phonics versus whole word debate of the 1960's[11] has escalated to a full-scale war.[12] Certainly, the gloves have been taken off in articles in educational newspapers and journals such as *Education Week* and *Educational Leadership*.

At the heart of the phonics first philosophy is the belief that children need to learn the code, the sounds that are represented by letters, in order to read. Although meaningful reading and writing are thought important, phonics advocates firmly believe that learning the code must be emphasized early and that many children will not crack that code without early direct instruction (see Eppling and Speidel, this issue for more discussion). After looking at extensive data, Juel[13] suggests that most students who are unable to decode words using phonics by the end of first grade never catch up with those who can. The lack of decoding skill affects the amount of reading children do both in and outside the classroom. By the time they reach fourth grade, poor decoders encounter thousands fewer words. The consequences are serious for such students; by encountering fewer words, both their language and their conceptual knowledge suffer.

However, whole language advocates also believe that children need to "crack" the code. The difference between the two groups seems to lie in how students are taught to do this. In whole language classrooms, phonics are not taught as isolated skills, nor is a synthetic method (*/c/-/a/-/t/*, "cat") used. Rather, these skills are taught in the context of real reading and real writing (see Sumida, this issue and Nakanishi, this issue).

Will all children learn effective strategies for inquiring, problem solving, writing, and constructing meaning from text without some direct instruction? Many researchers and teachers who agree with whole language advocates that children should be involved in meaningful, functional activities—discussing, experiencing, inquiring, and using and learning language in all its forms—do not think that these activities are sufficient to make successful learners. They think children need some direct teaching of skills and strategies that they can then apply to meaningful activities. These educators feel that teachers must help students see connections between concepts and situations; too many students do not make such connnections on their own.

Even among whole language "purists", there are different views on how instruction should proceed. For instance, there is considerable debate among proponents of "independent" and "guided" learning.[14] Teachers in independent classrooms believe in never showing their students how to write; teachers in the guided approach believe in explicit modeling. Often, mini-lessons are used as a teaching technique in the guided approach.

Are authentic materials like tradebooks or library books so much different from basal reading programs? The argument that basal readers should not be used due to stilted language, poorly written stories, and bits and pieces of literature was stronger a few years ago. Instead of excerpts or literature classics poorly rewritten to readability formulas, basals now often contain whole original stories (as Horace Mann was calling for in 1844)[15] very similar to many of the stories published as tradebooks and promoted as good materials for whole language classrooms. Some educators are asking why basals are being lambasted as a cause of problems in education when the stories for early reading have the predictable language patterns promoted for whole language classrooms.

In spite of improvements to basal readers, there remain three reasons why basal readers (or even the new whole language or literature collections) might not be appropriate as main sources of text for students: (a) There is little or no opportunity for student choice; (b) students are not able to see themselves finishing books and thus may not see and take pride in their progress; and (c) too often collections of stories, particularly if they have accompanying teaching manuals, lend themselves to a lockstep approach.

Is compromise possible?

It seems possible that a combination of whole language practices and direct instruction of phonics, of comprehension strategies, and so forth, could be worked out. Whole language may mean different things for different people. We are not all going to construct identical meanings from what we read, see, and try in whole language. The meaning we construct is personal, built from the interaction among what we already know from our experiences with children in the classroom, what we read and hear, and what we value.

Even some whole language advocates see the possibility of a middle ground. Mosenthal in "Whole Language: Teachers between a Rock and a Hard Place"[16] proposes that teachers need to combine aspects of whole language with aspects of skills instruction because of the reality of current standardized testing (which often tests these skills) and the culture (values of society). Michelle Takenishi (see interview, this issue), a strong whole language advocate and practitioner, believes that basals can be used in a whole language classroom: It is not the materials but the use of these by empowered teachers as researchers that is at the heart of the whole language classroom.

Perhaps most researchers, teachers, and administrators believe in educational practices that fall somewhere in the middle of the debate. In suggesting a compromise, Chester E. Finn Jr.,[17] of Vanderbilt University, uses the analogy of two groups invited for Thanksgiving, one who likes mince pie, the other pumpkin pie. He says if you bring a mince-pumpkin pie, neither group will be completely pleased but both will probably eat it. If that's true, a compromise would seem possible.

Unfortunately, extremists on either side of the debate seem blind to a compromise. When writers like Heymsfeld in "Filling the Hole in Whole Language"[18] do try to compromise, they are usually attacked in print by "purists" in either camp.[19] This may lead practitioners to question, "How much can I do differently?" "If I try some direct instruction to see if my students learn this material better, will I no longer be a whole language teacher?" The teacher is forced into a difficult position.[20]

In Hawaii, we may be avoiding some of these rigid stances. The State Department of Education (DOE) is encouraging whole language practices in its *Language Arts Program Guide*[21] (see also "Framework for reading instruction in Hawaii's public schools," this issue), but as Toguchi has stated in the interview, "Phonics can easily be incorporated and integrated into the whole language approach. The Department makes all approaches available to teachers." The DOE is sensitive to issues and to difficulties in bringing about change, and it honors and values the decision-making ability of teachers. The KEEP Whole Literacy Program, although adhering to many of the tenets of the whole language movement, has chosen to label itself *whole literacy* in order to emphasize its reading and writing focus. It is also to be distinguished from programs advocating a purist whole language position in certain practices, such as direct instruction in small groups.

What lends itself to the controversy?

It is not only the extreme positions of purists which inflame the controversy, but also a vague use of terms, confusion about whether whole language is a philosophy or a method, and difficulty in evaluating the effectiveness of the new approach.

Vagueness of terms. The education field is populated with terms that mean different things to different people. The whole language movement has taken on several of these: *whole*, *real*, *natural*, *authentic*, and *direct instruction* are a few.

Take direct instruction as an example. What is direct instruction? The term does not mean the same thing to everyone, and yet it is used in the literature without clear definition. Goodman[22] once equated direct instruction with "workbooks, ditto masters, extra practice for learners who get low test scores, and supplementary 'enrichment' materials for the high scorers." Others think of whole class lockstep instruction or lectures. But direct instruction does not need to have these characteristics. For instance, Tharp[23] and Au and her colleagues[24] describe direct instruction as teacher-guided, small group discussions that promote learning and are well-liked by students.

The vagueness of current terms used (so often without definitions or example) increases confusion and misunderstanding among teachers who are trying to make sense out of the rhetoric and apply it to their own classrooms.

Philosophy vs. method. In the articles studied by Bergeron[25], there was no agreement on whether whole language was a philosophy (23.4% of the articles), a method (6.3%), a belief (14.1%), or an approach (34.4%). However, leaders in the movement, Goodman, Smith, Harste, and Newman, seem to agree that it is a philosophy of how children learn. The implication is that there are no easy steps to whole language teaching. Teachers need to rethink their philosophy of learning, of language, and of teaching, and from there construct their own view of what should happen in their classrooms.

Evaluation - Does a whole language classroom make better readers and writers? It is difficult to evaluate the effects of whole language programs (the next issue of *The Kamehameha Journal of Education* will focus on this topic) for several reasons. First, whole language means so many different things to so many people that two whole language classrooms are seldom alike; similarly, non-whole language classrooms vary greatly, running the gamut from almost whole language to "skills for skills sake." Therefore, a systematic comparison, which underlies traditional evaluation philosophy, would seem difficult. Further, different camps regard different kinds of outcomes as valid. Authentic assessments, such as portfolios, valued by whole language proponents, are by their very nature individually determined, and, therefore, difficult to standardize. Yet, standardization is a basic requirement for any systematic comparison. On the other hand, standardized tests are not considered by whole language advocates (and many others) as appropriate measures of whole language outcomes (e.g., love of reading).

There is little doubt that students enjoy whole language classrooms. That is important; is it enough? A real test will come when these students enter universities and workplaces. Will they be able to read, write, discuss, and continue to learn without the support of the teacher and the classroom?

Concluding Comments

Perhaps the final question for all of us is—*No matter how good a method or philosophy or technique is, is any one method, philosophy, technique right for all learners?* Can we preclude that some might need a different approach, or at least some adaptation, to be successful?

Ken Goodman[26] states, "Whole language is clearly a lot of things to a lot of people; it's not a dogma to be narrowly practiced." He goes on to say, "Nothing . . . should discourage any teacher or group of teachers from developing their own version of whole language." As you will see in the articles in this issue, teachers and curriculum developers have done just that.

Each of us is still exploring, "watching children," thinking, and rethinking our curriculum, our activities, our teaching strategies in order to help children learn and become members of the "literacy club." We do not all agree on how best to do that. That is why it is so important not to shut out ideas of others but to read, reflect, try, and reflect again. Most of all, we should look at each child and make decisions, change those decisions, modify those decisions based on the child's language, experiences, and sense of wonderment.

I thank Dr. Sheida White for her helpful discussions and for her assistance in providing some of the readings.

Footnotes

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[2] Bergeron, B.S. "What does the term Whole Language mean?" in *Journal of Reading Behavior, 22(4), 1990.*

[3] *Bergeron, op. cit.*, see footnote 2, 319.

[4] Bergeron, *op. cit.*, see footnote 2, 315.

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[12] Rothman, *op. cit.*, see footnote 10.

[13] Juel, C. "Learning to read and write: A longitudinal study of 54 children from first through fourth grade" in *Journal of Educational Psychology, 80*, 1988, 437-447.

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[18] Heymsfeld, C.R. "Filling the hole in whole language" in *Educational Leadership*, *46*(6), 1989.

[19] See, for example, Goodman, "Whole language is whole: A response to Heymsfeld" in *Educational Leadership*, *46*(6), 1989.

[20] Mosenthal, *op. cit.*, see footnote 16.

[21] Hawaii State Department of Education. *Language Arts Program Guide*, Honolulu, HI: Department of Education, Office of Instructional Services, October 1988.

[22] Goodman, *op. cit.*, see footnote 5, 29.

[23] Tharp, R.G. "The effective instruction of comprehension: Results and description of the Kamehameha Early Education Program" in *Reading Research Quarterly*, *17*(4), International Reading Association, 1982.

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[25] Bergeron, *op. cit.*, see footnote 2.

[26] Goodman, *op. cit.*, see footnote 5, 5.

Framework for Reading Instruction in Hawaii's Public Schools

This article is adapted from the Reading Framework of the Language Arts Program Guide, *Office of Instructional Services, General Education Branch, Department of Education, State of Hawaii, October 1988.*

What is Reading?

The traditional view of reading is that it is a set of skills to be acquired through practice. The traditional approach to helping students become readers has been to prescribe activities that call for the mastery of discrete skills such as identification of the main idea, recall of supporting details, and analysis of words. Common practices include having students answer end-of-the-chapter questions and complete workbook exercises.

The current view of reading is that it is a meaning-making process that begins with students' prior knowledge, experience, and thinking. As students read, information in the text is synthesized with existing knowledge to create, revise, or expand concepts. Reading results in the restructuring of knowledge, through the integration of what students already know and understand with the new information from the text.

To make meaning, students use various reading strategies to plan and analyze the reading task, monitor and regulate comprehension, and evaluate ideas. Helping students develop these strategies and decide how and when to use them in order to direct the reading process should be the goal of instruction.

Features of both views of reading are contrasted below.

TRADITIONAL NOTIONS	CURRENT VIEW
Reading is taught by "assignment and assessment."	Reading is taught as a meaning making process.
The emphasis is on studying about language.	The emphasis is on using language to learn and communicate.
Reading instruction is separated from the rest of the curriculum.	Reading is integrated with writing, listening, speaking, and thinking within the curriculum.
The focus of instruction is on the material to be learned.	The focus of instruction is on readers—helping them reconcile prior knowledge with what is presented in the text.
The learner is a passive recipient of knowledge.	Learners are actively engaged in predicting, confirming, or correcting hypotheses, and constructing their own meaning
The emphasis is on linguistic features of language.	The focus is on meaning, concepts, and the interrelationship of ideas.
Accuracy is crucial.	Reading requires taking risks and learning from mistakes.
Subskills are assessed.	The development of readers is assessed.
Correctness is paramount.	Meaning is paramount.

The Reading Process

The reading process guides students in the construction of meaning. Use of the process facilitates and makes it more fluent and efficient. The process is dynamic and involves the use of different strategies in each phase.

Knowledge of the process helps students to direct their reading and select appropriate strategies when comprehension breaks down. Although the process described here appears to be linear, in practice it is recursive and cyclical.

Before Reading

Before reading, students motivate and plan their reading by analyzing the task, setting personal goals, activating relevant experiences and knowledge, and determining a general approach to the text. These behaviors motivate students to want to read, help them focus their reading, and make the text more comprehensible. As students read, they activate or access previous knowledge by skimming the table of contents or body of text, identifying a problem, finding an organizing concept, or making a prediction or raising a question to arouse curiosity and build anticipation. The extent to which students make meaning with the text relies heavily on what they bring to the text. Efficient readers rely on their past experiences to understand new information. Too many students pass through classrooms from year to year with the bulk of learning presumably taking place through reading; yet much of what is "read" has no reference to their experiences.

During reading

During reading, the interaction between the student and the text results not only in the construction of concepts in the text, but the reconstruction of meaning in the reader. Readers connect their language, experience, and thinking with the new information in the text. They make predictions based on their past experiences and prior knowledge. As reading progresses, predictions are confirmed, modified, or rejected. When ambiguity or confusion arises, readers revise or change their predictions, reread the text, or read further for more information. As predictions are validated, new ones are made, additional questions are raised, and the process repeats itself. As students progress through this phase of reading, they may use several strategies, for example, developing a structured overview or map that organizes information around a main idea, concept, or theme; summarizing new information and revising prior knowledge; or generating self-study questions to monitor comprehension. Good readers are not only aware of *what* they are reading but of *how* they are reading and can regulate and monitor their own reading, especially when the process breaks down.

After Reading

Learning is reinforced when students can verbalize, apply, and use the information gained from reading. The use of new information helps to consolidate learning and results in deeper comprehension and retention. When learning is functional, valued, and meaningful, students are motivated to read and learn more.

Expected Reading Behaviors

As students use the reading process to construct meaning, several behaviors will be apparent. They will:

- Read with the expectation that the text makes sense.
- Read to construct meaning rather than to identify letters or individual words.
- Assume an active role, using their knowledge of the world and of the topic in the text.
- Take chances—risk errors—in order to construct meaning and form connections.
- Make use of redundancies—orthographic, syntactic, and semantic—to reduce uncertainty.
- Use contextual clues to make sense of unfamiliar words.
- Maintain enough speed to overcome the limitations of visual processing and memory systems.
- Shift approaches for special materials or circumstances.
- Shift approaches depending on the purpose.
- Monitor and evaluate the effectiveness of the strategies used.

Essentials of Reading Instruction

What we think about students—how they learn, how they develop language, and how they read—has a lot to do with what we teach and how we teach it. It influences the goals and objectives of the curriculum, the instructional approaches and materials selected, and the assessment instruments we use. The "essentials of instruction" are an outgrowth of the view of reading described in this article. They are based on current research and successful teaching practices. They are as follows:

- **Reading is the best way to learn how to read.** Students should be engaged in reading that is useful and interesting to them rather than in completing workbooks and skill drills. Research supports the notion that language is more meaningful when kept whole. Isolating language into discrete sounds, syllables, words, and phrases makes learning more abstract and postpones its natural purpose—the communication of meaning. By emphasizing discrete skills over meaning, reading becomes linguistic knowledge. Teaching students *about* language is not the same as encouraging them to *use* language.

  Young children should be encouraged to bring books for sharing, talk about books and ideas encountered in print, make attempts at unfamiliar language when reading, and select their own reading material. Older children should be allowed to pursue their individual interests, but they should also be introduced to a wide variety of reading to expand their repertoire and broaden their interests. Time should be allowed for reading, and interaction should be encouraged as part of the reading process.

- **Word recognition skills should be taught within the context of the reading process and in relation to meaning.** The teaching of word recognition skills should be combined with many opportunities to read. Instead of focusing on specific skills, such as phonics, as *ends*, instruction should help students develop strategies that they can use as *means* to get meaning from text. Students should be taught to select the most efficient word identification strategy to enhance the process of reading. As students develop greater fluency in reading, they will become less dependent on word recognition skills and more dependent on contextual cues to get meaning.
- **An effective reading program should include a wide range of high quality reading material.** A reading program is more than a basal reader; there is no substitute for good books. Students should be provided with good literature, textbooks that are well-written and rich with important concepts, tradebooks of their interest and choosing, and the kind of print material that surrounds them in daily life—newspapers, magazines, posters, labels, signs, directories, and advertisements. There is no need for a special text to teach reading.
- **Students' existing language and experiences should serve as a point of departure for subsequent learning.** The teacher can help students focus attention on those aspects of their experience that relate to reading and build a base for comprehension and concept development by finding similar, comparable, or parallel experiences in the students' background and relating these to the lesson, text, or theme. When students have inadequate background information or experiences, the teacher can provide an experience: show a film or video, have students share with one another, invite a speaker, or organize a field trip. Role playing and dramatization can help students imagine or project themselves into a situation.
- **Reading aloud should be a regular part of instruction.** Reading aloud is a natural way for the student to experience language and to internalize its forms and patterns and for the teacher to model the comprehension process. As the teacher reads, students should be encouraged to follow, predict, and read along.
- **Students should be encouraged to discuss and share their understanding of what was read.** Learning is a social process that requires collaboration. As students interact with each other, they strengthen and clarify their own thinking. They learn from their own experiences as well as the experiences of others.

Discussion should be used as a teaching tool and valued rather than discouraged. Discussion takes students beyond the initial reactions and understandings obtained from their first reading. Discussion allows for ideas to be shared, questioned, refined, and expanded. Students not only benefit from being exposed to the ideas of others but also from the opportunity to verbalize their own thinking.

There is always a chance that students will not respond. They may not like what was read or they may have nothing to say. If they have nothing to say, they might be encouraged to tell why they are not saying anything or be allowed to select a new book.

- **Reading should be integrated with writing activities.** Students should be encouraged to extend the ideas gained in reading by writing about them. Comprehension is fostered and extended by having students record their thinking during the entire reading process.

- **The classroom should be a literate environment.** A literate environment is one in which students are surrounded by all kinds of print—recreational books, fiction and nonfiction, resource materials, reference books, as well as "real world" resources like telephone directories, newspapers, and television schedules. Classrooms should have a library, writing center, mailboxes, and a newsstand. Students should be involved in the creation of a literate environment by sharing their writing, bringing materials that relate to their interest and what is being studied, and visiting the school or community library.

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Whole Literacy: Curriculum Framework and Classroom Application

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Judith A. Scheu
Kathryn H. Au

Many teachers in Hawaii, as well as throughout the United States, are in the beginning stages of bringing a whole literacy approach to life in their classrooms. Often, these teachers are moving away from basal reading programs, curriculum guides, and skill-mastery tests intended to support skill-oriented approaches to the teaching of reading and writing.

In our work with teachers in the Kamehameha Elementary Education Program (KEEP), we find that they, too, are coming to appreciate the benefits of a whole literacy approach. They see the value of having a writer's workshop everyday and enjoy discussing real books with the children instead of basal reader stories. They often talk of children's love for reading and writing, noting that now their students know more about literacy than ever before.

As our commitment to whole literacy grew, we came to recognize the need for a curriculum framework consistent with our philosophy about children's learning. The framework we have developed was designed to support the literacy learning of children in the primary grades, but it can easily be extended upwards. Though our work is still in progress, we feel we have come a long way toward understanding at least one form that a whole literacy curriculum might take.

As we thought about the aspects of literacy to be represented in our new framework, we wanted to capture the spirit reflected by our teachers' comments regarding their students' love of reading and writing. We wanted the framework to attend to the motivational and affective dimensions of literacy.[1] We also wanted our framework to elevate writing to the same level of importance as reading. The two are of equal importance in children's literacy development,[2] and learning to write can have positive benefits on learning to read.[3]

Six Aspects of Literacy

Clearly, a whole literacy framework has to be much broader than a typical reading scope and sequence chart. But what areas should such a framework include? After much discussion, we decided upon these six aspects of literacy:

(1) ownership,
(2) reading comprehension,
(3) writing process,
(4) word reading strategies,
(5) language and vocabulary knowledge, and
(6) voluntary reading.

The first aspect of literacy, **ownership**, has to do with students' valuing of their own ability to read and write.[4] We thought that students' ownership of literacy should be the overarching goal in the framework. Also by including ownership, we highlighted the importance of the affective dimension of literacy development.

The next aspect of literacy, **reading comprehension**, is covered in all conventional curriculum guides and scope and sequence charts. However, while recognizing the importance of reading for meaning, we did not want to take a subskills approach to comprehension. Instead we wanted the framework to be consistent with the idea that reading comprehension involves a dynamic interaction among the reader, the text, and the situation or social context in which reading takes place.[5] Similarly, we chose the term **writing process**, the third aspect, to convey that this framework treats writing as dynamic and nonlinear, including such activities as planning, drafting, revising, editing, and publishing.[6]

The fourth aspect of literacy, **word reading strategies**, is generally treated in basal programs as a set of separate skills. In the framework we wanted to emphasize Clay's[7] notion that effective word identification requires the use of different solving strategies. That is, the child must learn to take a problem-solving approach in coordinating information from several different cue systems.

Language and vocabulary, the fifth aspect of literacy, involves the ability to understand and use appropriate terms and structures in both spoken and printed English. It also entails the ability to learn the meanings of new words. We wanted to follow an approach to vocabulary consistent with the knowledge hypothesis,[8] the idea that vocabulary represents a person's knowledge of particular topics as opposed to dictionary-style definitions.

The final aspect of literacy included in the framework is **voluntary reading**. In voluntary reading, students select the materials they wish to read, either for information or for pleasure.[9] Ideally, students also choose the times when they will read. We decided to use the term voluntary reading, rather than recreational reading or independent reading. Although these other terms refer to similar concepts, we thought voluntary reading best communicated the idea of students being motivated to read on their own.

Voluntary reading, like ownership, is not typically treated as a curriculum area. However, we wanted to highlight it in our framework, in order to remind teachers of its value and to call even more attention to the affective dimension of literacy.

In order to give teachers guidance in planning their schedules, lessons, and other activities, we also decided to highlight the relationships among the six aspects of literacy. By doing so, we could address the concerns of some teachers who worried that they would have to find more time for reading and the other language arts in an already crowded school schedule.

After extensive discussion with KEEP teachers and reading consultants, we arrived at the diagram of the framework shown in Figure 1, depicting the relationships among the six aspects of literacy. Ownership is placed at the top of the diagram, so that it can clearly be seen as the overarching goal. Reading comprehension and the writing process are shown side by side, to

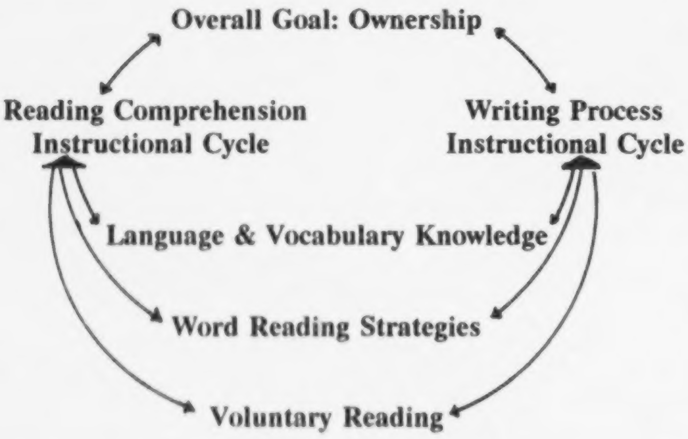
Overall Goal: Ownership
Reading Comprehension Instructional Cycle
Writing Process Instructional Cycle
Language & Vocabulary Knowledge
Word Reading Strategies
Voluntary Reading

Figure 1
Aspects of Literacy

reinforce the idea that writing is just as important as reading. Reading comprehension and the writing process are seen as the focal points for the framework's two instructional cycles. As suggested by the figure, the other three aspects of literacy—word reading strategies, language and vocabulary knowledge, and voluntary reading—are developed through both of these instructional cycles. We decided to place voluntary reading at the bottom of the figure to show that it supports and reinforces both word reading strategies and language and vocabulary knowledge.

We used the arrows to suggest the reciprocal relationships among the six aspects of literacy. Ownership, for example, may strengthen the development of reading comprehension ability because students are motivated to read more intently. Greater proficiency in reading comprehension, in turn, may give students more confidence in themselves as readers and so contribute to ownership of literacy.

Instructional Cycles

The reading instructional cycle centers on teacher-guided small group lessons and related independent assignments, with children reading from and responding to high-quality literature (see Sumida, this issue). The lessons are often taught following the experience-text-relationship (ETR) approach for narratives[10] or the concept-text-application (CTA) approach for informational text.[11] Related follow-up assignments usually involve students in writing about their reading in an open-ended manner. For example, students might be asked to write about what they learned from their reading or their predictions about what will happen next. The next time the reading group meets, the teacher begins the lesson by having students share their writing.[12] Further discussion of the text can be based on the understandings students have gained up to that point, or perhaps on points the teacher feels require clarification.

Small group lessons taught as part of this instructional cycle often focus on the reading of different types of authentic materials, such as tradebooks and magazine articles. At the earliest levels, materials for reading instruction include picture storybooks, Big Books (books with enlarged text) with predictable language and story lines, and books on content area topics. Along with these other materials, some teachers also use basal readers.

The writing instructional cycle centers on the writers' workshop (see also Sumida, this issue). Students have the opportunity to engage in all aspects of the writing process, including publishing. Generally, students have folders for keeping their drafts and notes. They participate in writing conferences with their peers and with the teacher, and they sit in the author's chair to read their writing aloud to the class.[13] Writing activities in the framework are consistent with research suggesting that students' writing development proceeds best

when they view writing as a means of communicating a message to a certain audience, when they have the opportunity to write about self-selected topics, and when they can discuss and share their writing with real audiences, including their peers and other students, the teacher, and adults outside of the school.[14]

As mentioned earlier, word reading strategies, language and vocabulary knowledge, and voluntary reading are all addressed during the two instructional cycles, through whole class, small group, or individual activities. For example, in the reading instructional cycle, voluntary reading can be promoted by building on interests students have developed through teacher-led discussions of novels. Students who enjoy reading books of a certain genre such as mysteries, or by a certain author such as Beverly Cleary, can be given the time and encouragement to pursue their interests. During the writing instructional cycle, voluntary reading may be promoted when students become interested in writng about a particular topic, such as snakes or the exploration of space. In this case, the teacher can encourage students to find and read books and magazine articles on the topic.

Classroom Example

Tying the aspects of literacy together through the two instructional cycles gave our teachers a reasonable way of conceptualizing their curriculum goals and planning for instruction. Let's look at some scenes from a second grade classroom to see how the activities which occur during the two instructional cycles reflect the relationships among the six aspects of literacy.

The schedule posted in Ms. Siu's room shows how class time has been allocated for specific literacy activities:

07:55 - 08:40	Writers'workshop
08:40 - 10:00	Reading groups
10:30 - 10:50	Sharing
10:50 - 11:05	Sustained silent reading
11:05 - 11:25	Story read-aloud

The children begin each school day by sitting together on the carpet for morning business where attendance is taken, lunches are ordered, calendars are brought up to date, and so forth. After that routine has been completed, the class moves into writers' workshop. On this day, Ms. Siu began with a mini-lesson about interesting story titles. The children reviewed the idea that a title tells "what your story is all about." Josie said, "Titles shouldn't be too long." Ms. Siu then pointed out a selection of mostly familiar books that she had placed on the chalk ledge, *Alexander and the Terrible, Horrible, No Good, Very Bad, Day*, J. Viorst; *Friday Night is Papa Night*, R. Sonnenborn; *Madeline*, L. Bemelmans; *Purple Climbing Days*, P. Giff; and *The Quilt Story*, T. Johnson and T. dePaola. She asked the children for their thoughts about the titles the authors had chosen. The children shared their ideas and suggested alternative titles that they thought the authors might have considered. The students concluded that titles should be interesting so that you will want to read the book. Josie decided that Judith Viorst's title was good, even if it was a long one. Ms. Siu suggested that the children think carefully about the titles they select for the stories they write. Titles should be interesting, she told them, because they are often the first thing people look at when they choose a book. "As you conference with each other, talk about your titles too."

Ms. Siu then referred to the class status sheet, a list of students' names on which she makes notes about each child's writing. She quickly read aloud the students' names, confirming with them what they would be working on that day. Some children were ready to begin a new story. They moved to a corner of the room to brainstorm their ideas for new topics. Others returned to their tables to continue working on drafts they had begun earlier. Some moved in pairs to conference with one another; Ms. Siu said she would conference with two of the children. Josie and Fred would work together to edit their pieces for capital letters and periods. Some students would continue publishing their stories. One of them went to the computer, another was copying from his final draft onto special paper with space for pictures at the top, and Mark and Kaui were creating pop-up illustrations to match their neatly printed text.

Each child in this classroom keeps a writing folder which holds their work in progress. On one side of the folder is stapled a record-keeping form entitled, *Things I Can Do When I Write*. This form has four sections with the headings, *Before writing*, *Writing*, *Revising*, and *Editing*. There are lines beneath each heading on which the children have written their personal goals. Under the first heading, all children have written, "I choose topics I know a lot about." Some children have written other goals such as, "I tell my story to someone before I write," or "I draw pictures before I write." Beneath the heading, *Writing*, all students have written, "I like to work hard on my stories." Some children have goals about making their pieces interesting, or making sure their stories have a "beginning, middle, and end." In the revising section, all children indicate that they conference with their teacher and/or classmates. Some state that they add, cross out, and use *spider legs* (whole sentence strips that they staple on to their story pages where they want to insert more information). In the editing area, the goals for all the children are that they check for spelling, capital letters, and periods. Another form is also stapled into the writing folders on which the children list the titles of their published stories. James has listed two stories, *Disneyland* and *All About Nintendo*.

As the children worked, Ms. Siu conferenced with Pua and Brad. After Pua read her story, Ms. Siu and Brad told her what they understood from her story and then they asked questions about things that were unclear to them and things they would like to know more about. Next Brad had his turn to share. During this conference, they also talked about interesting titles for the stories, and Ms. Siu suggested that they add "I can choose interesting titles" under *Revising* on the form in their writing folders. The children returned to their tables to add more ideas to their stories. Ms. Siu then checked with the students who had brainstormed new topics, offered help where needed, and made notes on the class status sheet. She continued to circulate among the children, offering assistance, listening, and coaching. When Mark and Kaui finished their pop-up books, they wrote their names on an author's chair which is drawn on the chalkboard to indicate that they are ready to share their stories with their classmates.

Ms. Siu announced that she would begin meeting with groups for reading and that she would see Sean's group first. The children gradually brought their writing activities to a close, and those in Sean's group joined their teacher at the small group instructional center with a writing activity they had completed during reading time the day before. These childen had written on the topic of sleeping over at someone's house, and they were ready to share and discuss their ideas. At the end of the discussion Ms. Siu asked, "Why do you think we have been talking about sleeping over today?" Kori responded, "To get our brains ready for our new story," as Ms. Siu took copies of *Ira Sleeps Over* from the shelf beside her.

As Sean's group read from and discussed this new story with their teacher, other children in the class worked on activities planned to support the literature explored

during their guided reading times. Kunani's group independently reread *No Room for a Sneeze!*. After they finished the story, they walked to a counter, picked up a story frame worksheet and returned to their seats to complete the activity. The story frame prompted the children to write about the story's problem and solution, the author's message, and the application of that message to their own lives. They also wrote down new words that they had encountered in the story and responded in a personal way as they explained the reasons why they enjoyed the story (or did not enjoy it).

Brandi's group reviewed ideas from their discussion of *Leo the Late Bloomer*. They wrote answers to the question, "What did Leo's father learn?" Then they told of things that they had learned to do well by drawing and writing about them. Members of this group were also engaged in the process of assembling a collection of books for their classroom library by Robert Kraus and Jose Aruego, who authored and illustrated *Leo the Late Bloomer*. Each child will present a book talk featuring one of the books.

A fourth group had arranged a semi-circle of chairs in a corner of the classroom. Each child had a copy of *Gregory, the Terrible Eater*, and they worked through a Reader's Theater production of the story which they planned to share with their classmates in two days. "In a play you not supposed to read the words, 'Gregory said unhappily,'" Pua explained to Dustin. "You just read, 'Baaaaaa,' in a unhappy voice."

Ms. Siu met with each reading group as the children continued to work on these and other independent reading and writing activities. Some children went back to work on their process writing, some read alone, others read together, some listened to taped stories, some wrote letters—all were engaged in meaningful literacy activities throughout the reading time.

At sharing time, the students' pop-up books were well-received and their authors asked if they might read them to the first graders next door. Some of the children in Brandi's group also presented their book talks.

During sustained silent reading, several children chose books from Brandi's group's special collection. For her story read-aloud, Ms. Siu shared *The Quilt Story*, the unfamiliar book whose title had been examined earlier. She asked the children to recall their discussion of the title and to think about it as they listened to the story.

Ms. Siu has made important changes in her thinking about instruction over the past three years when she first decided to introduce writers' workshop to her students. Lately she has lessened her reliance on basal readers in favor of more authentic literature. She feels comfortable with planning literacy activities within the two instructional cycles—reading and writing—and continues to discover ways of effectively relating the aspects of literacy within these cycles.

As Ms. Siu grows in her knowledge about whole literacy and its application in her classroom, she is rewarded with her students' growing knowledge about and love for reading and writing. The literate community within this classroom is an exciting and challenging place to be for both students and teacher.

Footnotes

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Creating Reading and Writing Fever

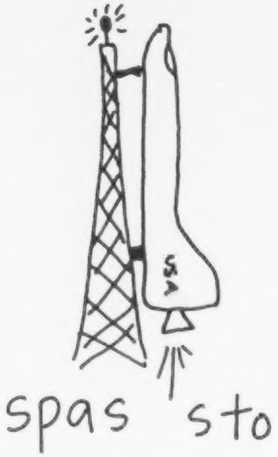
Anna Sumida has been for several years at the forefront of the whole language movement at Kamehameha Elementary School. Her colleagues see her as an excellent resource for their questions on adopting this approach. Anna's goal for her first graders has been to "make the children truly excited about books and to LOVE reading and writing." This is a wonderful goal with which no one would disagree. How does she go about achieving this long range goal?

Anna Sumida

For me, a turning point in my teaching came when I took a course at the University of Hawaii with Ann Bayer. In that course I learned how children learn, and this knowledge guides my teaching—you start with children's own thinking and experiences and then build on that foundation. I begin with writing because most first graders enter as non-readers. It is always more meaningful for children to write their own words and to read them than trying to read the words of someone else. *It is through their own writing that they learn to read.*[1]

Writing and Predictable Books to Introduce Reading

In the first six weeks of the school year, I emphasize the *writing workshop.* During the first writing session, I might tell the class about my vacation in Florida where I was able to see the space shuttle. I draw a picture of the space shuttle on the board and caption the illustration with the letters: *spas sto* for *space shuttle.* I pronounce the sounds of the words and spell phonetically in order to model the idea of invented spelling. I put myself into the place of first graders and think of their level of letter-sound knowledge. The children will not be familiar with the *-ce* spelling convention of



the word *space*, nor with *sh* in *shuttle*; they do not hear the *u* in shuttle and the *tle* sounds to them like *o*.

After my modeling, I ask the children to generate ideas of what they might write about. They eagerly bring up many personal experiences and I accept each one with great interest. The children then write about one of their own experiences. While they are writing, I try to have contact with every child, conferencing and asking questions about their experiences and talking about their illustrations. I go around helping them sound out words they want to write. These first few days of writing reveal where the children are at in their knowledge of letter-sound relationships, word sense, language development, vocabulary, and ability to express themselves through print and pictures.

Each writing workshop session is followed with *author's chair*, where volunteers share their writing and illustrations with others in the class. After each sharing, I highlight something I liked about the writing or illustrations. The other children quickly chime in with their comments. I focus upon a child's strength. For example, if a child drew a picture about his experience with snow and captioned it with the letters *SNO*, I let the child know that I am excited that he is adding in more sounds while spelling the word. This is, in a way, a mini-lesson for others who are still in the stage of labeling a picture of their house with *H* and a picture of their mother with *M*. Each day, I point out "breakthroughs" in the children's writing in order that others may learn from them. As the children grow and develop in their writing, I model new features in my mini-lessons, such as writing longer texts, adding details, and doing revisions.

The children's writing is so important to them because it develops their sense of ownership. These first writings are published with corrected spelling for their reading. I copy each of their stories (with corrections) into their personal, hardcover, blank books. The children then read the stories in their books to each other, to the class, and to their parents. In essence, their "published" writings become their first readers.

Writing is a direct application of phonics. As students write, they encode, and as they read their published writing, they decode. It is a fascinating transfer to observe; *it is an activity leveled precisely at the child's individual knowledge of phonics*.

Along with their personal, selected topics for writing, I choose certain types of books to promote the early stages of reading. I choose trade books with predictable language, with sentence patterns or repeated sequences, such as *Brown Bear, Brown Bear* and *The Old Woman Who Swallowed a Fly*, and books by Joy Cowley from Wright Group Publishers. I read these books out loud to the children. We chant them, dramatize them, and make our own reproductions of the book with the children illustrating the text. We also write our own versions of the book using the same basic sentence pattern and substitute words suggested by the children. It is great fun! These books are published, displayed around the room on bulletin boards, and made into large class-books for children to read and borrow. When they read these stories on their own, reading is made easier because they can match the print to the remembered language patterns. Very often, children move into a stage of recalling the words on the page and "pretending" to read them.

Most children will move from pretend reading into real reading. However, some children need extra instruction to begin matching the words on the page to the words they are pretend-reading. Therefore, I teach the children to track, and I model the strategy in a large group situation. By using Big Books or big class-books (stories reprinted in big letters on chart paper and sentence strips), we read the story while I use a "magic wand" to point to the words as we read them. After focusing on the meaning of the text, I talk about how we can use some "clues" to figure out what a word might be. At this time, I focus on one particular skill (e.g., initial consonant sounds, final consonant sounds, word endings, digraphs, etc.).

As I work with children in small groups, I put my finger on the word a child is reading; later on I let him point to the words himself. If a child's miscues distort the meaning of the text, I correct him, hinting that what he has read is not on the page. If a child continues to have trouble, for instance reading "happy" for *funny*, I might ask, "If this word were *happy*, what sound would the word start with?"

"H."

"But what does the word start with?"

"F."

"So what could it be?" This focuses the child's attention on the component letters in a word.

The children mimic and point to words even when they read on their own and with a partner during shared reading. Sometimes the listening child will point to the words for the reader (often when the listener is the better reader) or the reader will point to the words to help the listener focus on the words being read. Eventually, the finger-tracking fades as students begin tracking with their eyes.

Developing Reading Fever

Key Classroom Interactions

There are six interactions in my classroom that I see as significant for developing the children's love for reading and writing. I will describe each one separately, but they really are closely interwoven and form a cohesive whole. Taken together they serve my overarching goal—to encourage children's love for reading and writing.

1. Reading to the children. For at least 30 minutes a day—during a scheduled time and any "between moment"—I read to my students stories, poems, or expository pieces. The best way to guarantee that the children will read a book is to read it aloud first to the class. It will become an immediate "best seller" and children will fight for it when it is time to sign out books. I also introduce books to the class during short booktalks where I describe a book only to the point where the children become interested in reading it.

During the early part of the year, I read many simple stories, many of them with patterned or otherwise

chicken
rice
milk
ee
Homework

predictable language, as well as traditional literature. As the year continues, I read a variety of both easy and more difficult books.

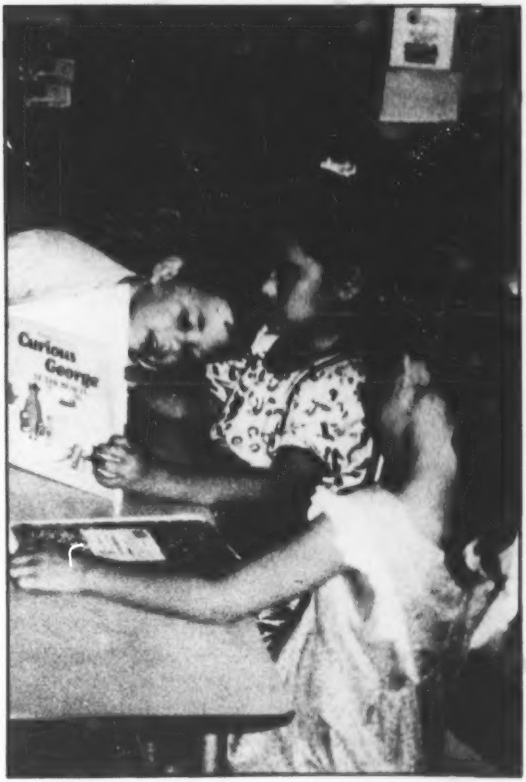
Books are like the blood of my classroom. The children need a fresh supply all the time. That is why, every two to three weeks, I bring in from the public library 30 to 40 brand new books that I am excited to share with them. In selecting, I keep my students' interests and reading levels in mind. If I know that John and Tyler love books about trucks and cars, I make sure that I have some books that will interest them. I also include books for children's different reading levels. Readers who are struggling can choose from a range of high-interest, easy-readability books. Sometimes a child will want to read a book I have read that is too difficult for him—but that is not a problem; a classmate or a parent can read it to the child.

I think my constant reading aloud serves as a model for the students' attitude about books and affects how they read books. Teachers often complain that their students do not read with expression, but I never need to urge mine to do so. Because I read aloud with a dramatic, theatrical style of expression, they automatically mimic me and read with expression when they read to each other. It helps them sustain their attention and improves their comprehension. Many parents comment on how pleased they are to hear their child read with such wonderful and natural expression. I am always tickled to hear that!

As we get farther into the year, the children themselves begin to introduce books to the class through booktalks. They read the stories aloud to the class and/or give a brief synopsis of the story. This automatically motivates the other children to want to read the books too.

2. *Shared Reading.* Reading in pairs has proven to be one of the most successful activities in my classroom. I feel it is essential to provide time for the children to read together. The pairs are created by the children. For example, as the children sit on the lanai waiting for the class to begin, I ask who would like to read a book to a friend. If Vieni says she can read *Little Rabbit's Loose Tooth*, volunteers raise their hands to listen to her story. She then selects a partner and they find a cozy spot to read together. In exchange, Vieni must also listen to her partner read a book to her.

How do I know whether a child can read a book? I rely on my parents for help. Each afternoon, just before the children pack their bags to go home, each child borrows 2 to 20 books. In one of those books, the child must place a "magic", pink bookmark to indicate which book he will practice and read to his parents. I discuss this arrangement beforehand with parents during open house early in the year. Usually all parents cooperate and compliment me about this home/school link. It is one way parents see for themselves how their child is developing as a reader. They tell me how thrilled they are that their child



is so excited about books and just loves to read!

Other ways in which children share stories include reading to the class or an adult or doing Reader's Theater. While sharing a book, they spontaneously talk to each other about the story, the characters, the illustrations, and the relationship of the story to their own lives; they predict, they validate, they argue about things. Shared reading develops students' confidence in reading and truly promotes a community of readers.

As a by-product, children learn much from each other—some children are wonderful teachers. I do not need to give the children any specialized training in peer teaching; it is just a natural process. They serve as models and teachers for each other and often times, their efforts are more effective than mine. It helps me to have so many wonderful "teachers" in my class.

3. Guided Reading. I conduct flexible, fluid, small, literature reading circles every day. The composition of the group, which can be heterogeneous or homogeneous, is sometimes determined by the topic and sometimes by the instructional needs of a group of children. During this time, I am able to focus on their reading comprehension, their interpretation of the story—how they relate the story to their own lives or to other books they have read.

For about three to five minutes, each child reads to and shares with the group the book he has selected to practice reading to his parents at home and to classmates during shared reading. If it is a short book, the child usually reads the whole book; if it is a longer book, he retells the story and reads his favorite part. Various ideas are discussed, depending upon what the child mentions in his talk. A common topic is the character's problem and the solution. The child often shows us this particular part of the story and reads it to us. This gets a lot of attention from his listeners, since this is usually the highlight or climax of the story. Like a magnet, all their eyes are drawn to the page. It is really rewarding to see this happening.

These readings and discussions help the children to clarify their thinking and comprehension of the story. Their ability to summarize and verbalize their thoughts and ideas improves. I begin to notice progress in my silent, shy students and in the children who are delayed in oral language. Moreover, the discussions work like booktalks in that the other children become interested in the books and want to read them too.

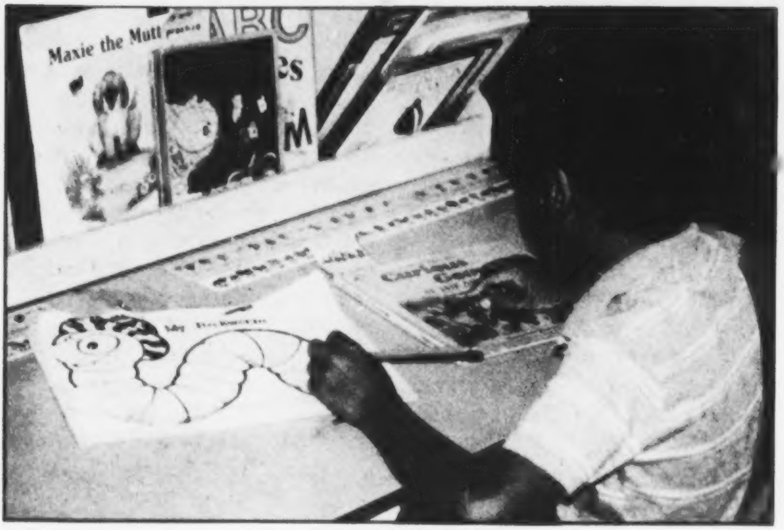
I want my students to feel that I value what they say and what they think so I allow them to control the discussion. There are times when students do not understand what they have read. However, since they are in control of the discussion, I listen and realize *why* they have misunderstood. Other children in the group are quick to enter the discussion which helps to validate or alter the reader's thinking. This is a common behavior of adults who are discussing the same book, article, or reading material. We interject and clarify our thoughts and ideas. I want to create this same situation with my students—it is a meaningful and real-life experience and they learn a great deal from listening to each other.

In this way, comprehension discussions are meaningful and not threatening to the child. They are not threatening because my role is not to "test" his understanding by asking questions on details, cause and effect, sequencing, main idea, and so forth, where there is only one right answer to say at one right time. As a child speaks and interprets the story, these literary elements are naturally and sensibly pointed out by the student. And the more the child does it, the better he gets at it. As adults, we do the same thing when we want to tell others about a book we have read. We talk about why we liked it, what the book was about, and what we thought about it; through this talk, the qualities of literature, listed above, just naturally come out. I try to recreate this same experience for the children. My goal is to make children love books and love reading and to share that love and excitement with others.

I also use these reading conferences at the instructional center to teach the children how to read words they do not know. I model how to use picture, sound, and context cues. Since the children participate in the guided reading center on a daily basis, I know each child's level of reading ability and can help him apply these cues as needed to his reading and writing. I am continually fascinated by the children's learning processes and feel like a doctor, diagnosing and seeing what needs to be done to facilitate their growth. It takes patience to see improvement, and a great deal of nurturing and encouragement. Clapping, a happy smile, a pat on the back, a hug, a kiss—these are the prescriptions that make a difference in their motivation to read, read, read.

4. Independent reading. Children become better readers *by reading*. Therefore, the children spend approximately two hours of the day reading independently or in pairs. In order for them to enjoy this time, I make sure that there is a large supply of many different kinds of books in the room. At any given time, I will have close to 300 library as well as student-authored books in the classroom. To insure that the children are attracted to the books, I display them with their front covers showing, not their spines. One of my goals is to surround them with literature and to immerse them in books so that the books are literally at their fingertips, on shelves placed upon their tables. This simple placement of books has reduced behavior problems and made transition between activities smoother; whenever children have a free moment (waiting times between snack and recess, math and lunch, going to the bathroom before a field trip, etc.), they reach for a book, instead of getting into mischief.

During independent reading, children begin naturally to read on their own, in pairs, or in play-acting situations, such as playing teacher or mother reading to a group of children. They lie on the carpet reading big class-books; they place a Big Book onto an easel and point with my magic wand, the way I do when I read to them; they read their own published stories. In this way, repeated reading, which has been found to foster fluent reading, occurs almost constantly in my class. As a by-product of repeated reading, weaker readers have many opportunities to do repeated listening to a story. This is a vital part of the scaffolding in their learning to read. As they continually hear different children read stories to them, they approximate the text more closely when they attempt to read those stories themselves. Using memory, picture cues, and a solid foundation in letter-sound cues, they make



faster progress in their reading development.

One of my record-keeping systems, the bookworm, not only informs me about each child's reading progress, but also provides the child with an incentive to read. The children write onto their bookworms the titles of the books they have read to me. Depending upon the difficulty of the book, I draw one or more stars beside the title. For example, 1 to 3 stars signify the preprimer level, while 21 stars signify above grade level reading; that is, the child has little need for help with decoding and vocabulary and has good comprehension. The children get very excited seeing their bookworms grow. Each child receives a prize after each bookworm is completed (bookmarks, growth chart poster, dinosaur eraser, pizza coupon, etc.).

5. *Writing Workshop.* As a daily practice, I give the children 30 to 40 minutes of writing time during which they write on self-selected topics. This is one of the most rewarding experiences of teaching because you come to know each child in a very personal way. Writing provides a window into their lives and the sharing that they do through writing gives the teacher a tremendous amount of insight into a child's unique personality. A child is given an uninterrupted opportunity to communicate his ideas and feelings without the competition of more verbal students overtaking a discussion.

The complexion of the writing workshop constantly changes as the children develop as writers during the year. An entire book could be written about this; however, I will briefly describe the process I go through to facilitate the children's growth. As described earlier in this article, I begin with what the children know—with labeling, one word captions, and simple sentences. Creating an atmosphere which allows the children to take risks and feel comfortable with invented spelling is vital.

Initially, a great deal of time is devoted to prewriting discussions. "What could you write about today?" There is a flood of ideas and each idea leads to more ideas. After each writing period, the children share during author's chair (described earlier) and allow others to see and hear the fruits of their work. Children influence each other's topics and writing styles through this sharing. I model a discussion of what we liked best about the story and what we would like to know more about. This eventually leads to many mini-lessons on how we can revise, add on, put in carets, change words, delete, and so forth, to improve our stories. During the early stages of the children's writing, I demonstrate this revision process using my own short stories. Eventually, as children start to revise, they become the models, sharing and teaching each other how to do it. The author's chair is the most influential practice in producing this change.

As the children gain confidence, I inform them that I will be teaching them some important conventions of writing which will help others to understand what they have written. Taking one particular editing skill at a time, I focus on lower-case letters, spacing, capitals, periods, punctuation marks, *a/an*, correct spelling of basic sight words (*the*, *in*, *is*, *it*, *she*, *come*, etc.), word endings, digraphs, blends, and so forth. Children in the class are all at different stages of development. My large group mini-lessons are aimed at teaching the high students and in this way, everyone hears and becomes familiar with all the skills. However, when I teach small groups or individual children, I teach only what they are ready to learn because I do not want to discourage them.

Another tool I use to introduce and review skills is the *morning message*. The "message" could be one of my short stories, a child's piece of writing (if he volunteers to have it projected on the overhead), a poem, or an actual message to the class. It is at this time that I "work the skills," looking for word families, word endings, compound words, contractions, blends, vowels, silent *e*, punctuation, capitals, and so forth (see Nakanishi, this issue). Only one skill is focused on at a time. The children enjoy hunting for the words and it is a helpful informal assessment tool.

Much, much more can be said about specific details on the writing process but others, like Donald Graves and Lucy Calkins, have said them more eloquently. Through their books, they have been my mentors. *Writing: Teachers and Children at Work*[2] and *The Art of Teaching Writing*[3] were my Bibles in my early years of experimenting with invented spelling and writing. I initially had difficulty accepting phonetic (yet incorrect) spelling, refusing to believe that the children would eventually learn conventional spelling if they had not learned it correctly right from the start. But I had to let go and say to myself, "Just try it!" Little did I know that it would not only teach the children how to spell but also how to READ! Like the metamorphosis of a caterpillar to a beautiful butterfly, children who could only speak to communicate would be transformed into excited readers and writers. It is amazing and wondrous to see them blossom, grow, and feel good about themselves. Best of all, it is painless, it is fun. Bonding with the hearts of children is much more rewarding than bonding with the corrections on a workbook page!

6. *Writing made public.* During the daily practice of author's chair, the children share their writing with each other, the whole class, and with other classes. Their writings are displayed on bulletin boards and are published as student-authored books. They write class newsletters, they write to their penpals, and they share their penpal's letters with their friends.

Publishing is the process in which the children's invented spelling is converted to conventional spelling. Therefore, the more they publish, the quicker they develop in reading. However, it requires a lot of my energy and hours to keep up with publishing. As the year progresses, I transfer this responsibility to the children. By then, they can leave spaces between words, use capitals and punctuation marks appropriately, and have better fine motor control in their handwriting. As mentioned earlier, these published stories become their personal "preprimers" without the stilted language of a controlled vocabulary text.

Reading at Home

Since parents play such a significant role in a child's learning, I involve them intensely. I emphasize to them how important it is for parents to read to their children and for children to read to adults. I ask parents to have their child practice reading his books to them daily, and I model how they can help. Open house and parent/teacher conference times provide good opportunities for doing this. If I find that a child is not receiving extra help and support at home with her selected book for practice, I phone the parents and talk with them about it. Sometimes it is very difficult for parents to find the time to read with their children and I try to see if other members of the family—grandparents, aunties, uncles, or older brothers and sisters—might be able to help.

At first, the children borrow only one book to take home every night, until they have properly learned the system for checking out and checking in the books. Since my personal library books are at stake, I carefully monitor this system. If a child forgets to return a book, he is unable to borrow any more until the overdue book is returned. The social climate for reading is so strong that the children are eager to read and check out books. They feel left out if they cannot borrow books because they have not returned their books from the previous day. Thus, their nightly borrowing increases; some students come to borrow up to 18 books a night. The amazing thing is that with so much borrowing, only one or two books are lost during the whole year.

Summary Remarks

The six classroom interactions, the many different books available for reading, the encouragement of reading and writing at home, and the incentive system all help to create an environment in which children's love for reading and writing flourish.

Footnotes

[1] Rudolph Steiner, the founder of the Waldorf Schools, and Maria Montessori have argued many years ago, that the road to reading is through writing.

[2] Graves, D. *Writing: Teachers and Children at Work*, Portsmouth, NH: Heinemann, 1983.

[3] Calkins, L.M. *The Art of Teaching Writing*, Portsmouth, NH: Heinemann, 1986.

Whole Language in a Fifth Grade Classroom

In this interview Michelle Takenishi, a fifth grade teacher at Red Hill Elementary School, talks about her very personal view of whole language and how she has altered her classroom and her instruction to reflect her thoughts about how children learn most effectively.

People have very different ideas about whole language. What does whole language mean to you?

A friend of mine asked me recently what whole language is. I answered glibly, "It is real reading and real writing for real purposes." My friend wondered, "What does that mean?" I started talking about literature-based programs, subject integration, and so on. And then I stopped, realizing it is silly to label specific activities as whole language. There are so many teachers who do literature-based reading instruction, thinking it is whole language, but they get the publisher's learning and comprehension check lists and use those to assess comprehension. When they do that, the understanding of the learning process is missing. Whole language is much more than having a literature-based approach to reading and language arts, more than ownership, choice, or responsibility.

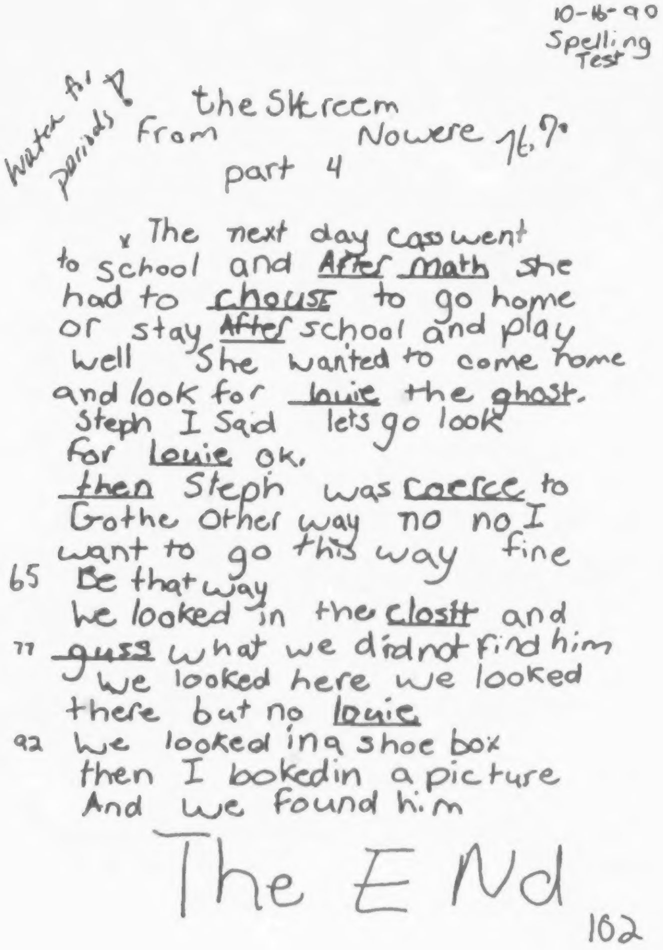
For me whole language is about a learning and teaching philosophy: "Why do you teach the way you teach? Why do you have the classroom set up the way it is set up? Why are you asking the children to read out of basals, or literature, or magazines?" Teachers should have a good reason for doing things and not do them just because that's the way they are supposed to be done. Teachers need to understand how children learn and what motivates them; teachers need to think, critique, analyze. I am a researcher and to me, the classroom is a laboratory: if one experiment doesn't work, I try something else, asking myself, "How else can I approach this teaching problem?"

Maybe a real example of what I mean by a whole language teaching and learning philosophy might help. Spelling! It's a real struggle for teachers, and it has been one for me! I've tried spelling lessons with word definitions; I've tried spelling lessons with sentences; I've tried spelling lists with the students' own texts, conferencing the way Atwell or Harste suggest during process writing; and I have even tried games. Nothing worked. There was no transfer of what was learned into the students' daily writing. There was no connection. So last year I quit and had no spelling. But having no spelling also did not satisfy me. The research part of me said there must be a place somewhere for spelling. This year I'm doing something about spelling again. On Mondays, I tell the students to get ready for their spelling test on Friday. During the week they can choose to practice writing stories at home. Then on Fridays, they write for about half an hour. They are free to write anything they want: letters, cooking recipes, or parts of stories from their writing workshop. But their spelling must be absolutely correct, their writing must make sense, and it must be at least 100 words long. They can get help at home or at school during the week to prepare for their writing/ spelling, but on Fridays in class, they need to work on their own.

The first week they all got *A*'s on their spelling. I talked to the class about it. "That's remarkable! All of you got *A*'s! Why is that?" A student answered, "Some are writing very easy words." Although sometimes very easy words are misspelled, the student had a point. There was no push for vocabulary in their writing. Their vocabulary is poor and needs to be stretched. Again, I'd tried many approaches, and they hadn't worked. So the students and I came up with this scheme. I use a lot of big words in my speech; my class president writes the words on a little tablet, (I point to him when he should write a word) and during the week he writes the words on the blackboard. The students will know the meanings of the words because I have used them in context, and we have discussed them. For instance, today's word is *atrocious* because the vice principal came to our class and said the lunchroom behavior has been atrocious. By the end of the year, there will be several hundred words up on the wall.

But how can I challenge the students to use these words? I have integrated the spelling with the vocabulary. They now get a bonus point every time they use one of the words on the wall correctly in their Friday spelling. Since the word is already on the blackboard, fear of spelling the difficult word should no longer keep the students from using it in their writing. What happened when I integrated vocabulary with the spelling? On the next spelling test, there were three *D*'s. Again the students and I talked about why this happened.

So this is what I mean by whole language: I sense a need—I see that the goal of an activity, like learning spelling lists, is not being met; the students



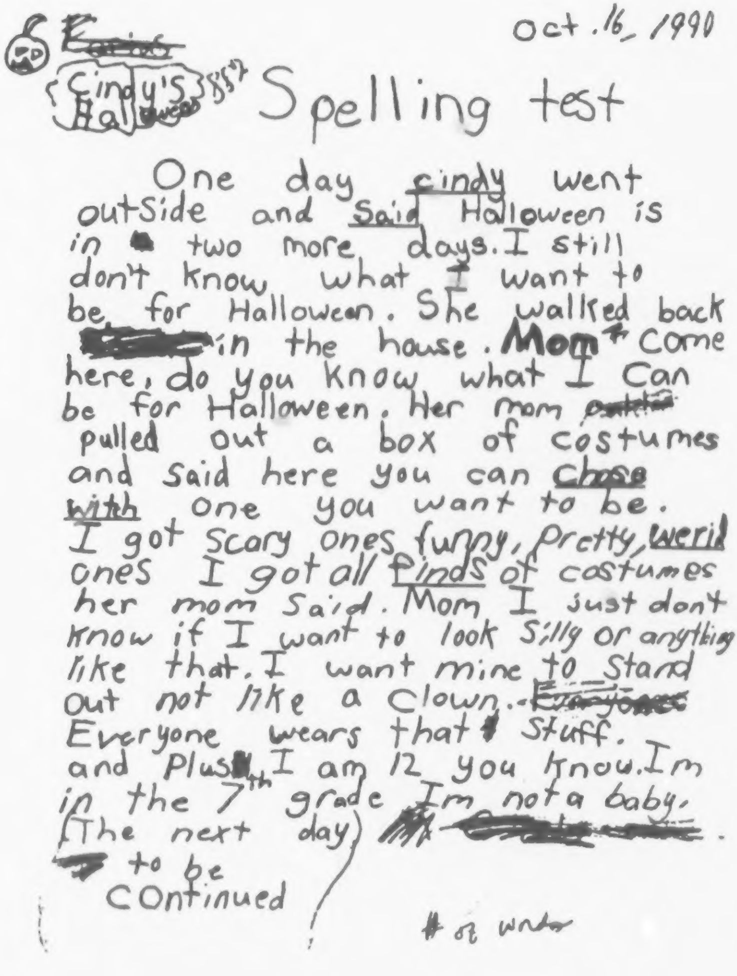
10-16-90
Spelling
Test

Watch for periods!

the Skreem
From Nowere 76.7
part 4

x The next day cass went
to school and After math she
had to chouse to go home
or stay After school and play
well She wanted to come home
and look for louie the ghost.
Steph I Said lets go look
for louie ok.
then Steph was coerce to
Go the other way no no I
want to go this way fine
65 Be that way
we looked in the clostt and
77 guss what we did not find him
we looked here we looked
there but no louie
92 we looked in a shoe box
then I looked in a picture
And we found him

The E Nd
102



Oct. 16, 1990

Cindy's Halloween

Spelling test

One day cindy went outside and Said Halloween is in two more days. I still don't know what I want to be for Halloween. She walked back in the house. Mom come here, do you know what I Can be for Halloween. Her mom pulled out a box of costumes and said here you can chose with one you want to be. I got scary ones funny, pretty, werid ones I got all finds of costumes her mom Said. Mom I just don't know if I want to look Silly or anything like that. I want mine to Stand out not like a Clown. ~~Everyones~~ Everyone wears that Stuff. and Plus, I am 12 you know. Im in the 7th grade Im not a baby. (The next day)

to be Continued

# of words

are not transferring and retaining their spelling. As teachers, we need to think through why we do such activities. The children may get straight *A*'s, but are they using this knowledge? Are they transferring it to their daily lives? Most teachers will tell you, "No." So then we need to think why this is so. If it's not working, we can't continue it. We need to think of a new way, asking ourselves, "Why are the students not connecting what they have learned? Where does their learning begin?" We need to search for ways in which to make learning more meaningful and to think, "How can children learn in the most natural setting so that their learning transfers to real life? From which kinds of learning settings will their motivation spring? How can we arrange the classroom so that they want to learn without threat, while pushing them to meet the greatest challenges they can?" It's an agonizing process.

Now I am wondering how I can expand and integrate these Friday "spelling tests." I want to help the students become more concise in their writing. I'm thinking about using a telegram situation in which they have to count the costs of their message. If I make frequent words more expensive than less frequent words, then I can use this writing activity also to teach and apply some mathematics in pricing.

I hesitate to talk about all the spelling and the vocabulary because I am still trying it out. The students say they enjoy it and that they can see the benefits. I'm waiting to see the test results. I brought this up because I wanted to give an example of what I mean by the whole language approach and what I mean by being a research teacher. The process I've gone through in searching for ways to teach spelling so that it is meaningful for the children and becomes part of their daily writing is the best example to me of teaching with a whole language philosophy.

Reading is a central part of the whole language approach. How do you go about teaching reading?

I have reading workshop daily in my class for about one hour. The children read books, magazines, articles, even comics, whatever turns them on. But over time I strongly urge them to read more and more good literature. I tell the students, "It is okay to read magazines provided you understand what you are reading, but eventually you will need to get into literature." During the reading workshop I have mini-lessons on elements of good literature, finding the main idea, how to choose a good book, how to settle into a book, the importance of finishing a book, and so on. Also I try to read to the children daily so that I can introduce them to good literature and poetry.

Furthermore, the students are to read a minimum of a half hour each day outside of school. Parents are encouraged to share in their child's reading by either reading together, talking about the book, comparing it with other books or other events, or discussing memories that trigger a connection. I have sent home a letter that gives parents eight different ways they can help their child get into a book. Parents keep a record of what their children have read, including comments about discussions or questions on the readings. Every two weeks I collect these records and read through them to see how a child is progressing and whether the child appears to understand the story. If I find that the comments on these records are too general and shallow, I teach the process of reading for meaning again in the classroom—I constantly stress: "You must understand!"

In class we read, talk about the author, and talk about the text. We have discussions about how to read and how to have discussions. We exchange ideas on how to read at home. My students will also be reading to kindergarten children daily. This gives them another purpose for and perspective on reading. In class I read picture storybooks so the students learn how to pick good picture books and how to read books to children.

Monitoring children's progress is essential. A whole language room can be a lazy room—if allowed. But this monitoring or assessment is one of the most difficult things to do. I have explored a number of different ways to monitor reading progress. I use reading response logs, which are popular in whole language classrooms. In these logs, the students write their thoughts about their readings. But I found that these logs did not give me enough information about how my students were reading. Even though my students were fifth graders, I was getting book reports that did not reveal what they were thinking about and experiencing while reading. Again, my whole language approach guided me: I hit upon a problem and thought about how to solve it. Therefore, last year I added "Double Entry Drafts," (DED's) in order to get students to write more personally about what they were reading. They take a word, phrase, sentence or paragraph that they particularly like and write it on one side of their DED folders. Then on the opposite side, they write the thoughts they were having when they read the word, phrase, sentence or paragraph. The DED's help them connect what they read and what they write about in their response logs. The logs have become more personal.

But still, I was not getting enough information to stretch, extend, and build on their reading. So, next, I devised tape-recorded conferences. Every two weeks, I have individual conferences with the students about what they have read or what they are reading. I tape these conferences so that I can go over them again later. In the conferences we discuss the main idea of the book and other important aspects. These one-to-one discussions allow me to get a better picture of the children's level of understanding and the guidance I need to give them. Take, for example, the conference with Kathy (fictitious name) about the book she had read, *Great Expectations*.

I:	Kathy, talk to me about this book. In a few sentences tell me what the book was about.
Kathy:	This boy went to the grave to see his mother and father. They died. He was thinking about them and these guys sneaked up behind him and wanted (unintelligible) something like a slave, and the boy was scared and ran.
I:	Can you tell me in one sentence what the whole story is about—I'm pushing for the main idea.
Kathy:	This man and a boy. This guy wanted food.
I:	The whole story is about food?
Kathy:	Yeah, and about how he escaped.
I:	Why is the book called *Great Expectations*?

Kathy continued to talk about some details she had read, but I got the clear impression that she had not understood what the story was about. Although Kathy agreed to read the book again, she never did. She started to read *Ralph S. Mouse* and quit; she went on to *Mystery at Bel Air House* and quit. She has trouble getting into books. The conference with her let me see quite quickly that she was reading mindlessly. She does not realize that we read to understand. I now know that I need to talk to her daily about what she is reading. This child is reading at a level much too complicated. I need to take her to a level where she understands and enjoys what she is reading. Tomorrow I will go with her to the library, and we will choose a book that is at a level she can understand. That's where I need to start her from. I may have to have mini-lessons on comprehension, discussing with her what each page is about, predicting every two pages what will happen next, and then validating the predictions.

I think these conferences give me a deeper knowledge of the children's understanding. I send these tapes home each quarter along with report cards to give parents a better idea of how their children are reading and how I am teaching their children. I'm really putting myself on the line.

You frequently talk about mini-lessons. Can you tell me about those?

My mini-lessons are full group lessons on a particular topic or skill. I plan these mini-lessons in response to the students' learning needs. They're never longer than 10 to 15 minutes. Children can only sit and attend with complete concentration for that length of time. My mini-lessons are just tasters—the children will hear them again in different ways at different times. They do not need to master the content immediately. I have to prepare for these lessons. For instance, for a lesson on a *lead*, I might get three storybooks and read the lead of each one. I'll talk to the students about what a lead is, and then I'll ask them to get out their books and find a lead. I ask, "Who has a good lead? Who has a junk lead? Why is it good, or junk?" They have their own analysis of what they think is exciting. Then in writing workshop, we'll connect what we talked about in the mini-lesson. I might say, "You're writing today the start of your interview with your parents. Don't forget to write a lead. I don't want as a beginning 'I am interviewing my mother.' I want something interesting or something different."

In whole language, writing is considered to be as important as reading. Your students have written some beautiful books which are now among the favorite books for borrowing in their school library. How do you accomplish such astonishing results?

I have writing workshop daily for about an hour to an hour and a half. The students are encouraged to write "pieces" of their choosing: real life experiences, books they have read, imagined stories, legends, fables, and science fiction. During the writing workshop I have mini-lessons on elements of good writing such as leads, pivot points, character development, author's purpose, theme, mood, and so forth. There are also skill lessons on grammar, spelling and punctuation.

But the major emphasis is on writing, for it is only through constant writing that good writing can emerge. Since conferencing is very helpful in developing writing, the students learn the elements of good conferencing and try to conference with one another every day. I conference with the students as time permits, gently nudging, encouraging, and giving pointers to show how they can develop their written pieces. When students feel they have completed a piece, we have a taped writing conference similar to the reading conference. The students read and audiotape their piece, and then we have a brief *writer's dialogue*. These tapes, like the reading conference tapes, are also sent home to the parents so that they can become familiar with their children's work. After the writer's dialogue, we have a conference about the piece, during which I point out specific areas on which to work in their next piece of writing, such as having a good lead into a story or developing a character. During each conference I record the areas for development in a child's writing record book. The children then need to make sure that in the next written piece they take care of each skill area we have talked about up to that point. They need to check their skill list to make sure they have addressed all of my previous recommendations. Using this kind of individualization, I can guide the student to his maximum potential.

A conference might go like this. John (fictitious name) started out his interview piece about how his mother met his father, "I interviewed with my mom about my parents meeting. My mom met my dad in Air Force Base California." He continued reading his whole piece. After he finished, I asked him whether he made any corrections.

John: Yes.
I: I told you to conference with people today, and I saw that you did, but no corrections have been made. Did they say it was perfect?
John: They said it was good.
I: And today we talked about leads. Did you check whether your lead was good? What is a lead?
John hesitated.
I: A lead is the beginning of the story. We talked about how you should start your story in a way that makes a person want to climb into your story. Does your lead make you want to climb into your story?

I talked with him some more about how he could improve his lead. Also we talked about how nice it would be if he enriched his story with more details. How much more detail could he have added with each paragraph? "Three," he said. I then recorded in his skill book beside his title, the things that he needed to work on and include in his next piece. Months down the road, as the list grows, there should be growth. Every time John comes with a new piece, he needs to check whether he has addressed all the previous skill areas.

Again, it is important for parents to participate in their children's learning. Therefore, a general rule is that the children write for at least half an hour every day at home. The topic is of their own choosing. I encourage the children to "conference" the pieces with their parents, others in the family, or friends, and to discuss topics that they can write about.

How did you become interested in the whole language approach?

I began teaching about seven years ago. Like everyone else, I taught using the textbooks and gave the tests when and how you were supposed to. I never sought to do anything with the scores once I got them. It was just good that the testing was over. I worked hard then, came in over the weekend, spent many hours correcting work sheets and doing careful lesson planning. I wasn't interested in any professional literature.

I always felt something was missing, though. I was not joyous; the children were not joyous. Then I took part in the Hawaii Writing Project, and that's how I got started in whole language. Then in 1989, I received the Leadership Award and went to the "Ideas Conference" in Michigan to meet with the other 19 winners of the award. This experience put me over the edge. The focus during the conference was on what the process of learning is and on the problem-solving process of teaching—"This isn't working; what do I do now?" Every teacher I met was actively thinking and not just doing things because someone said so. They were asking themselves, "What is the process of learning? What am I trying to do? Why am I trying to do it? This didn't work; where do I go from here?" This experience rounded out my growth as a whole language teacher. And now, what I would like to do is to sit down with teachers and show them which steps I go through to solve a problem, as with the spelling.

My time at home now is spent not on grading papers or planning which pages in the workbook each group of students will be doing. Rather, I spend much of my preparation time thinking about such questions as: "Does the vocabulary need to grow faster? If so, how can I make that happen? Where can I go from here?" Or, "I need to make changes in the list of children who are tutoring. How can I do that without ruffling some egos?" We'll be having astronomy next term. "How do I prepare them, and how can I integrate the math they need to learn into the astronomy?" Or, I watch my students while they are working, wondering whether those three girls who are sitting together are really doing productive talk or whether they are just chatting away, and I ask myself, "How can I encourage their involvement with their work?"

Now I have time to read professional literature. Teachers in workshops will ask me, "From where do you get your ideas for teaching?" And I answer, "From the journals and professional books that I read, such as the *Reading Teacher, Curriculum Association, Learning Magazine, Teacher, Teaching K-8.* I talk to other teachers; I correspond with Harste and Graves and other prominent people in the whole language field. I watch TV and see basketball and realize how one could teach about perimeter and percentages using basketball. I read about astronomy and think what a wonderful way to introduce angles in geometry." I now have time to think of these important, problem-solving, and creative aspects of teaching.

I feel that there is tremendous learning going on in my classroom. Several children have complained to me, "Your class is too hard." I ask them, "Why do you say that?" They answer, "Because in your class we have to think."

Gisela E. Speidel

Word Reading Strategies in the KEEP Whole Literacy Program

Pat Nakanishi has been a KEEP consultant at Wai'anae Elementary School for five years. Previously, she taught for many years at Nānāikapono Elementary School and later at Makalapa Elementary School where she developed a strong interest in process writing. This interest eventually led her to an internship in the Hawaii Writing Project in the summer of 1985.

Pat Nakanishi

During the '89-'90 school year, the Kamehameha Elementary Education Program (KEEP) began its transition from a comprehension-based reading program to a whole literacy reading and writing program. At the time, I was the consultant assigned to work with the first grade teachers at Wai'anae Elementary School. In that role, I provided the teachers with program support, such as suggesting instructional methods and materials, demonstrating lessons, and problem solving.

Our old program was "traditional" in that teachers often used basal stories as reading materials, and instruction was guided by a scope and sequence of skills objectives. The skills were introduced in lessons that were separate from the comprehension lesson of the day. The students practiced the skills on worksheets and were later tested on them. Everyone—children, teachers, and KEEP staff—was pleased when records showed students' steady growth in skills mastery. The only problem was that many of the children who passed the tests on skills, such as blends, digraphs, endings, and syllables, did not seem to use these skills when reading and writing new words.

In our new literacy program (see Scheu & Au, this issue), the focus is on reading literature and on process writing. There is neither a scope and sequence of specific skills objectives nor isolated skills testing. Teachers are encouraged to embed instruction of skills into their daily reading and writing and then to observe whether the children apply these skills in their work. When this drastic change in approach occurred, teachers raised many questions and expressed much anxiety. They wondered: "What skills do I teach?" "How do I instruct them?" "How do I know if the children are applying them?" "How do I assess?"

We consultants had many of the same concerns as the teachers. As an ex-KEEP teacher myself, I had been committed to the old way of teaching and assessing and felt lost and confused. Fortunately for me, the first grade teachers at Waianae Elementary were all capable and experienced. We worked collaboratively to help each other make this transition. As each teacher tried new strategies and/or materials, she and I would brainstorm together and then share the ideas or activities with the other first grade teachers.

Carolyn Imai, a twenty-year veteran teacher, asked me at the beginning of the school year about skills. Before I could respond, she answered her own question: "I know what skills I'll teach—the same ones I've always been teaching—consonants, blends and digraphs, rhyming and word families, endings, and so forth. I'll just have to do it in my morning messages, Big Books, process writing mini-lessons, and so forth." This comment helped us to get going in the right direction.

Like Carolyn, Jan Oshiro, another experienced KEEP teacher, also began to make connections. About half way through the year, as we were learning to assess students' mistakes in oral reading through *running records*[1], Jan mentioned that knowing about Clay's different cueing systems (see Table 2) was very helpful to her. Now she was able to figure out which skills the children were applying and which ones they were not. She began to focus on helping the children apply the skills she had been instructing to their own reading and writing. Also, she helped them become more aware of their own decoding strategies. Thus, through comments like Jan's and Carolyn's, we began to understand how the new teaching process worked.

At the end of our first year, we were greatly relieved and excited to see that our students were reading and writing fluently. We had more confidence in the whole literacy approach to learning and were ready to share our explorations. In the following pages, we will present ideas that we have shared with other teachers. In so doing, we will take you through the process by which we tried to find answers to our questions.

What skills and knowledge should students have?

Word reading skills are tools used to solve unknown words. Children need such skills to be independent, fluent readers and writers. Teachers should instruct the skills they feel their students will need to be successful.

An experienced teacher, such as Carolyn Imai, has an appropriate list of skills in her head, which she is then able to introduce through meaningful text. However, as I had read in an article in *The Reading Teacher*,[2] a new teacher would need to acquire such a mental list, which she could do by becoming more familiar with children's work, by looking through curriculum guides, and/or by talking with experienced teachers. In order to develop a list for our use, teachers at each grade level got together to discuss the skills they felt were needed. The results are shown below in Table 1. There is a spiral effect through the grade levels; once specific skills have been introduced, they are reinforced at successive grade levels.

Table 1

KEEP WAIANAE - WORD READING STRATEGIES

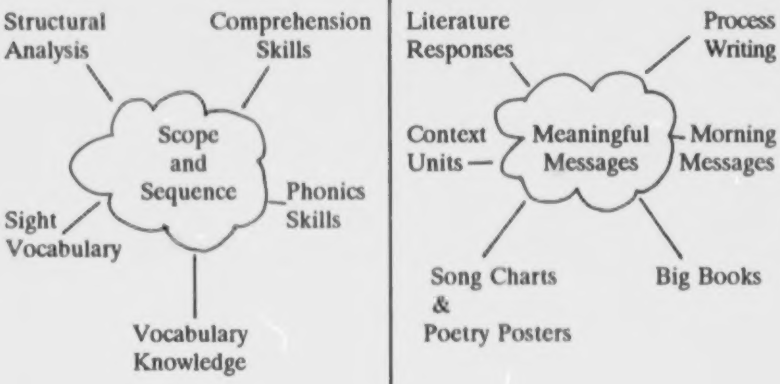
Kindergarten	Grade 1	Grade 2	Grade 3
Alphabet	Rhyming/ Common Word Families	Rhyming/ Word Families/ Vowels	Word Families/ Vowels
Names	Consonants	Consonants	Blends & Digraphs
Rhyming/10 Word Families	Blends & Digraphs	Blends & Digraphs	RootWords/ Endings
Consonants	Endings *-ed*, *-ing*, plural *s*	Endings *-ed*, *-er*, *-est*, *-ing*, *-y*, *-ly*, plural *s*	Contractions
10 "glue" words	Contractions	Contractions	Possessives
	Compound Words	Compound Words	Syllables
	100 high frequency words	Possessives	Prefixes/ Suffixes

How can we instruct these skills?

In keeping with the whole literacy approach, skills instruction is conducted within the context of reading and writing *meaningful messages* throughout the day. This direct instruction should be in the form of mini-lessons, taking only a few minutes at a time. What helped to clarify this for us was a term used in another article, which referred to whole language as *readiness-upside-down*. As you can see in Figure 1, the traditional approach goes from part to whole, while the whole language approach goes from whole to part. Figure 2 contrasts the way skills were introduced in the previous KEEP program with that in the current whole literacy program. In the former, a scope and sequence of skills guided the introduction and instruction of skills. In the current program, skills are introduced and taught in the context of meaningful messages (e.g., Big Books, morning messages, and process writing.)

TRADITIONAL	WHOLE LANGUAGE
Alphabet	Books
↓	↓
Sounds	Words
↓	↓
Words	Sounds and Letters
↓	
Sentences	

Figure 1. Sequence of instruction in the two approaches.


Structural Analysis
Comprehension Skills
Scope and Sequence
Phonics Skills
Sight Vocabulary
Vocabulary Knowledge
Literature Responses
Process Writing
Context Units
Meaningful Messages
Morning Messages
Song Charts & Poetry Posters
Big Books

PREVIOUS KEEP PROGRAM	WHOLE LITERACY PROGRAM
• Introduce skill in isolation from the comprehension lesson.	• Introduce skill as it appears in a literacy event.
• Practice in workbook or on worksheets.	• Practice while reading and writing.
• Move on to next skill in sequence.	• Come back to skill again and again.

Figure 2. Comparison of skills instruction in the former KEEP program and the present KEEP whole literacy program.

Following are three examples of such skills mini-lessons which Jan Oshiro taught within the context of meaningful messages.

1. Process writing. As she does frequently, Jan asked a student's permission to put her rough draft on chart paper and use it for a lesson in conferencing and revising. After the class had asked questions about the story, and the revisions were done, Jan noticed that there were a lot of words with endings in her story. She had children come

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up and circle *-ing* endings, *-ed* endings, and *-y* endings in the story. Then, on the chalkboard, the students rewrote those words dividing them into root words and endings and discussing the appropriate rules. The children brainstormed other words with the same endings to produce word families. This process would help them in the future to decode unfamiliar words by analogy. For example, in decoding a new word, *mall*, a child might recognize *all* and thereby figure out the unfamiliar word.[3] (See also Eppling and Speidel, this issue)

2. *Content unit.* Jan's class was studying about sea animals before a trip to Sea Life Park. One group was doing research on dolphins. The students had read books about dolphins together and had generated a webbing with information about parts of a dolphin's body, where it lives, what it does, what it eats, and so forth. Next, Jan had each child write a report on one of these subtopics. In order to model this, while Jan and her students discussed this topic, she wrote *Parts of a Dolphin* on chart paper. Later, she had the class reread the chart story and circle words which began with clusters, for example, *blowhole*, *breathe*, *protect*, and *flippers*. The children were asked to think of other words which began with the same blends.

3. *Literature read-aloud.* Sometimes when Jan reads aloud, she writes a word from the book on the board. On finishing the story, the children find other words around the room which belong in the same word family. They see the pattern and think of additional words, and this helps them develop analogy decoding skills. Jan's class has generated many charts such as this one on the word family *-eat*:

-eat
beat
seat
neat
heat
cheat
(etc.)

Some cues which can be used to teach application of beginning sounds with this word family are (a) "I'm thinking of another word that begins like *play* but rhymes with *eat*. What is it?" (*pl eat*) and (b) "I'm going to write a nonsense word that belongs to this same word family (*spleat*). Who can look at it and tell me how to read it?" . . . "Great! Now tell me how you figured it out."

How can students apply the word reading strategies?

Children have the opportunity to apply skills when they are reading and writing. That is why it is so important to provide daily opportunities and motivation for independent reading and for process writing. In addition, teachers can help children increase their awareness of their own decoding process by brainstorming together what to do when trying to figure out an unknown word. Figure 3 is a sample webbing that a teacher might use to help students learn to apply their word reading strategies independently. This practice builds confidence in their own ability to read new words.

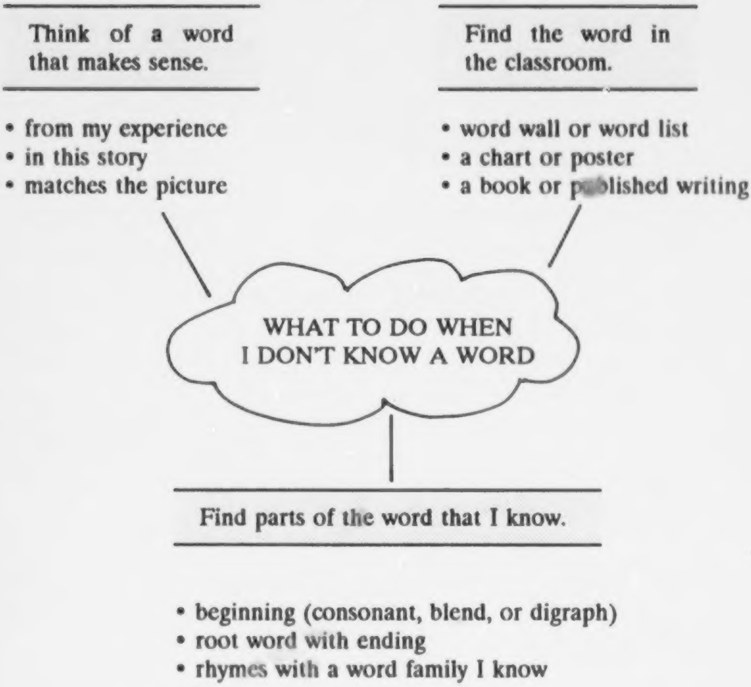
Think of a word that makes sense.
• from my experience
• in this story
• matches the picture
Find the word in the classroom.
• word wall or word list
• a chart or poster
• a book or published writing
WHAT TO DO WHEN I DON'T KNOW A WORD
Find parts of the word that I know.
• beginning (consonant, blend, or digraph)
• root word with ending
• rhymes with a word family I know

Figure 3. Strategies for reading unfamiliar words.

How can we assess word reading strategies?

Assessment in whole language is accomplished through observing children's application of skills in their reading and in their writing. An analysis of a student's errors while reading aloud (e.g., a running record assessment) can help a teacher understand what difficulties the student is encountering and which strategies he is using to read.

In order to be able to do this kind of *authentic assessment*, teachers need to be trained in the administration of such assessment tools as the running record.[4] As mentioned earlier, learning Marie Clay's system of cues used in reading helped Jan to develop an understanding of what these word reading strategies might be. Marie Clay proposes that there are three cueing systems which readers use when solving unknown words.

Good readers use all three cueing systems and self-correct when a word does not look right, does not sound right, or does not make sense. Poor readers use only one cueing system—usually visual to "sound out" words. They do not notice or stop if what they read does not make sense. The following table which we developed lists the three types of cues to use when decoding a new word. It also gives examples of miscues or errors that students make. For instance, if a child reads "horse" for *house*, he is making use of visual cues but not meaning cues. If he reads "pony" for *horse*, he is making use of meaning cues but not visual cues. With this information, a teacher can help a student balance the use of visual, meaning, and structural cues to solve new words encountered in text.

Table 2

Application of Marie Clay's Cueing Systems

VISUAL	MEANING	STRUCTURE
Child reads: He is riding on a *house* (instead of *horse*).	Child reads: He is riding on a *pony* (instead of *horse*).	Child reads: He is *ride* (instead of *riding*) on a horse.
His miscue looks like the right word, but does not make sense.	His miscue makes sense, but does not look like the right word.	His miscue does not sound grammatically correct.
Teacher knows that child is using phonics, but not thinking about meaning.	Teacher knows that child is reading for meaning, but not applying phonics.	Teacher knows that a dialect speaker may not be aware of this type of error.
Teacher can praise child for saying a word that looks right, but asks child if it makes sense.	Teacher can praise child for saying a word which makes sense, but asks child if it looks right.	Teacher can praise child for saying a word which has the right meaning and begins with the right letter, but asks child to notice the *-ing* ending.

Concluding Remarks

Last year, I think we accomplished a lot in making such a drastic transition from our traditional program to a whole literacy program. This year, as I work with less experienced teachers in third grade, I am finding out how difficult it is to help teachers (a) develop a mental list of skills, (b) instruct skills within the context of meaningful messages, (c) assess through observation of students' work, and (d) give the right cues to encourage application of decoding strategies. Experienced teachers can draw upon prior knowledge and experience with the instruction of skills when they adopt the whole language approach. They can use this knowledge selectively in response to students' needs.

Our challenge, therefore, is to develop an effective way of helping new teachers without this prior knowledge and past experience to embed skills instruction in a whole literacy program. We hope the sharing of our experiences in this article will be of help to others.

Footnotes

[1] Clay, M.M. *The Early Detection of Reading Difficulties*, Portsmouth, New Hampshire: Heinemann, 1979.

[2] Staab, C.F. "Teacher mediation in one Whole Literacy classroom" in *The Reading Teacher*, 1990, 548-552.

[3] White, T.G. "Phonics and word identification in a literature-based program" in *The Kamehameha Journal of Education*, *1*(1), 1990, 9-15.

[4] Clay, *op. cit.*, see footnote 1.

Do Some Children Need More Phonics Instruction?

Jackie Eppling has been teaching first grade at Kamehameha Schools for four years. Gisela Speidel has been a curriculum researcher with the Kamehameha Elementary Education Program since it began in 1972.

Jackie Eppling
Gisela Speidel

> *Whole language teachers regard themselves as professionals. . . . They vary the use of adopted texts and prescribed curricula to meet the needs of their pupils in accordance with their best professional judgment.*[1]

The view of the teacher as a professional and as a researcher is an exciting aspect of the whole language movement. It gives teachers the freedom to act on hunches based on years of teaching experience, to try new ways to cope with old problems, and to individualize as they see necessary.[2] The view of teachers as decision-making professionals is consistent with another recent movement, the collaboration between teachers and educational researchers in curriculum development.

In this article, we—Jackie, a first grade teacher, and Gisela, a curriculum researcher—share parts of our exciting teacher-researcher collaboration. We came to talk with one another when Gisela started to work with three of Jackie's students who had trouble learning to read. Gisela tried an approach that had worked before: The children read individually to her for about 10-15 minutes each day in a comfortable and cozy setting; enjoyment of reading was emphasized rather than instruction; and whenever a child came to a word he could not decipher, Gisela would provide it. However, with these three children, the approach did not seem to be effective. They tended to guess whenever they came to unfamiliar words and attended little to the phonic cues. That is, they did not seem to be aware that letters or groups of letters represent speech sounds and that they could use this knowledge to figure out print.

When beginning readers come to a word they do not immediately recognize, they need to try out different pronunciations and see what makes sense. The joint and balanced use of various cues is essential to becoming a fluent reader[3] (see also Nakanishi, this issue): If children ignore the phonic cues, the balance in strategies is not right; if children use phonic cues to come up with a word that does not make sense, the balance is not right either.

During discussions about these findings, Jackie realized that a fair number of children in her class might be having difficulty with the early stages of reading because they were not applying a sounding out strategy to the reading process. She thought that she would like to explore more systematically the effects of including some teaching of letter-sounds in her whole literacy curriculum. (The teachers at Kamehameha Elementary School do not closely follow the KEEP whole literacy program used in public schools and described by Au[4] and by Scheu and Au, this issue). In the following pages, we present our findings after Jackie had taught one year in such an integrated fashion. Then, we describe the instructional activities that we feel may have helped certain kinds of learners.

What we found

Did Jackie's systematic approach to developing the ability to match the alphabetic transcription to the sound structure of words (or letter-sound knowledge, for short) have any effect? To find out, a series of assessments were done with Jackie's 20 students and a sample of 30 students drawn from the other four first grade classes in the school.

The children were administered several tests. At the beginning of first grade they were given a phonological awareness task—strip the initial consonant.[5] This task was included since a close association has been found between phonological awareness and learning to read. A sample question on this particular indicator of phonological awareness is, "If you take away the */b/* (sound, not letter name) from *ball* what word is left?" (*All*) The children were retested at mid-year and again at the end of the year if they had not passed the task on the previous administration. At the end of the year, the students were given the Stanford Reading Achievement Test (SAT).

Nineteen of the students tested (5 in Jackie's classroom and 14 in the comparison group) had at least some phonological awareness at the beginning of first grade. (The cutoff was five or more items correct out of ten on the strip the initial consonant task.) At the end of first grade, all 19 students were reading at grade level or above on the comprehension subtest of the SAT (see Figure 1). This finding suggests that the children who had phonological awareness when they started first grade learned to read easily, regardless of the kind of instruction they received. They did not need Jackie's more systematic approach to the development of letter-sound knowledge.

The picture is different for the children who did not have phonological awareness at the beginning of first grade—31 of the students tested (15 in Jackie's classroom and 16 in the comparison group). Only 9 of these 31 students performed at or above grade level on the SAT Comprehension subtest at the end of the first grade (see Figure 1).

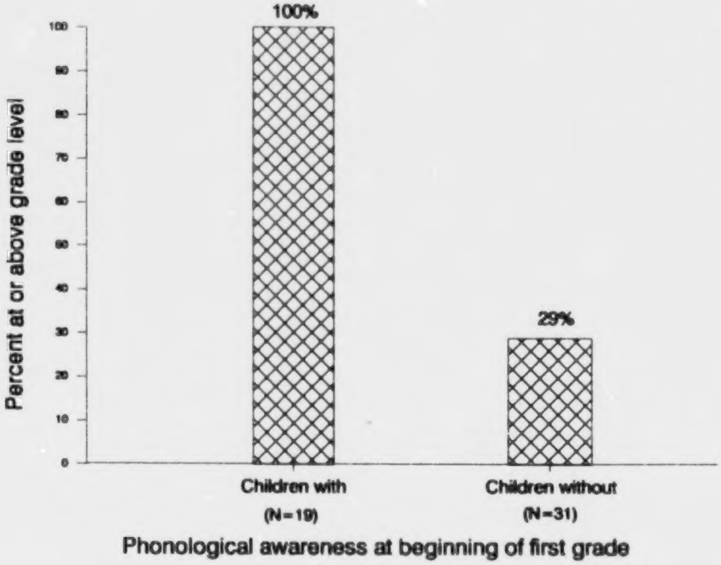

Figure 1. End of first grade differences in reading achievement between students with and students without phonological awareness.

However, Jackie's instruction seems to have helped those students who did not have phonological awareness (see Figure 2). At the end of first grade, 46.7% (7 out of 15) of those students in her class were reading at or above grade level on the SAT comprehension subtest, while in the sample from the remaining four classes, only 12% (2 out of 16) were reading at grade level. Furthermore, when the students were retested at the end of the year, only one student in Jackie's class had not yet developed phonological awareness, while in the comparison group there were seven such children.

Thus, it seems that for children who, at the beginning of first grade, do not yet have phonological awareness, giving some systematic attention to the sounds of words and to the letters, or groups of letters, that represent these sounds is helpful within a whole literacy curriculum.

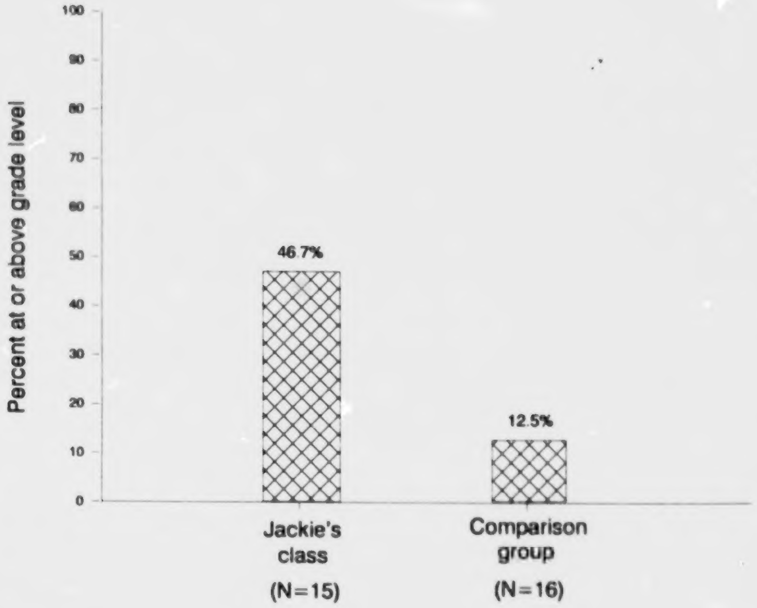

Figure 2. End of first grade differences in reading achievement of students without phonological awareness who received different instruction in letter-sound relationships.

What did Jackie do?

Much of Jackie's teaching was guided by the whole literacy curriculum framework described by Scheu and Au (this issue). Within this context occurred such letter-sound or sound-letter oriented activities as making sound cards, analogy decoding activities, reading aloud in small reading groups from phonetically developmental storybooks,[6] and spelling. We will briefly describe these activities and explain why Jackie did them. Two points should be kept in mind while reading about the activities.

1. Although the activities are described sequentially, they may have often occurred within the same reading session. Jackie selected the activities depending upon how she thought they might promote learning at the time.

2. Jackie kept in mind that the strategies the children were to learn during these activities were not the end goal but were merely a *means* to the goal—understanding the text (see "Framework for Reading Instruction," this issue).

Jackie believes in teaching beginning readers by using the sounds of the letters rather than their names. Beginning readers must learn about the alphabetic principle—that letters and groups of letters (phonograms) symbolize particular speech sounds. By teaching the names of the letters rather than their sounds we confuse beginning readers: It is difficult to infer the alphabetic principle, or "code," when told that *c-a-t* (pronounced "see-ay-tee") says *cat* and that *t-a-l-l* (pronounced "tee-ay-ell-ell") says *tall*. The interference children get from letter names is quite evident when one looks for it. For example, one of our first graders came across *Sam* and could not read it. When asked what the word said, he answered, "*S-a-m*" (pronounced "es-ay-em").

To help students learn letter sounds, Jackie made sound cards with them. Jackie's belief that children learn when they associate something new with something meaningful or familiar guided her teaching in this. For example, for the *m* sound card, Jackie wrote *m* on the blackboard, saying "mmmm", and asked, "When do you make that kind of sound?" The children called out, "Before dinner," "After dessert," "When I eat ice cream." The children voted on which one was best for representing *mmm* and settled on *ice cream*. A child drew an ice cream cone on a card mounted on the blackboard (see Figure 3). The children then brainstormed words that begin with *m*, and Jackie wrote

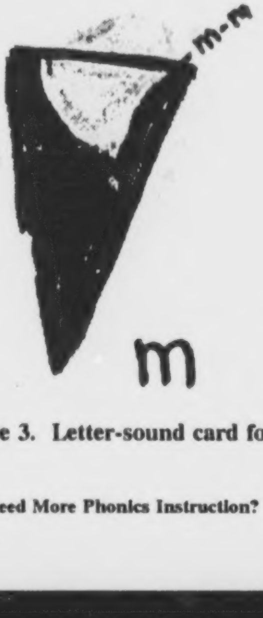

Figure 3. Letter-sound card for *m*.

the words on the board. She talked with the children about the meanings of the more unusual words they had brought up. Finally, Jackie dictated a few simple words beginning or ending with *m*, for instance, *mom*, *man*, *ham*.

Jackie spent only a few minutes on such mini-lessons, only long enough to introduce the concept. She did such lessons as they were needed to introduce new letters for the storybooks the children were reading so that they could immediately practice using this new information during meaningful reading. Mastery was not required.

It was unnecessary to make sound cards with pictures for every letter: After about ten consonants and the five vowels, the children caught on to the notion that letters represent sounds and that the sound of words can be represented by letters. They quickly learned the remaining single-letter consonant sounds.

Jackie put the sound cards up on a wall for the children to use. During writing, children sometimes forgot how to make a letter and the sound cards were a helpful memory aid. For instance, one boy once wanted to write *man*, and said, "mmmm," but couldn't remember how to make the letter *m*. He looked for the ice cream cone because he remembered it made the "mmmm" sound and saw what the *m* looked like. Similarly, during reading, when the children came upon words with letters whose sounds they did not remember, they could look up to the sound cards. The picture on the card helped them recall the sound. The students felt much pride when they could figure out a word by themselves. After struggling to decipher a word, they occasionally called out, "I did it!" "I got it!" Given the tools for figuring words out, children become confident and can take ownership of the reading process.

Jackie began with teaching consonants and short vowel sounds; that went smoothly. The difficulty came when the children read words with long vowel sounds: They would read "cap" for *cape* or "hop" for *hope*. These errors show that the children were applying their knowledge of letter sounds to new words, but now they needed to learn other sounds to the same letters. Jackie found that teaching rules, such as "When there are two vowels, the first one says its name," was unsuccessful. Diacritical markers (that do not markedly alter the appearance of a word) helped, but such marks are not found in storybooks. Another strategy Jackie found useful was brief skill lessons in which she wrote contrasting words on the board, such as *cap*, *cape*, or *hop*, *hope*, or *met*, *meet*. Practice with word families and decoding by analogy seemed to be the most helpful strategy for learning alternative pronunciations of vowels.

Jackie introduced the notion of decoding by analogy (see also Nakanishi, this issue) very early on, during the phase when the children were making letter-sound cards. For instance, on one of the first days of reading instruction she wrote *tin* on the board, then *pin*, and then *win* all in a column. As she wrote each word, she asked students to read it.

She then asked, "What can you tell me about all of them?" The children responded, "They all have *in*." Jackie drew a house around the words and in the attic she wrote *in*. She talked about how they are all a family whose last name is In. Such analogy decoding helps the children see that many words that sound alike, that rhyme, are also written alike and that words are not just random strings of letters. Analogy decoding seems ideal for developing phonological awareness.

However, as with every other learning activity, the children must be thinking and motivated and not just rotely performing. Thus, word family practice is best done when children perceive a need, as when they come upon a word that is troublesome. For instance, when the children read "pig" for *pit*, Jackie wrote on the board in a column, *it*, *sit*, *lit*, *pit*. As she wrote each word, the children read it, and when they came to *pit* they were able to decipher it. When Jackie wrote *pig* beside *pit*, they could see the difference. Another use of analogy, just mentioned, is to help children learn long vowel sounds. For example, when Joey read "bet" for *beat*, Jackie wrote on the board what he had read, *bet*. Then she wrote *beat* and covered the *b*, asking what the remaining letters said. Someone answered, "Eat." She continued, "If this is *eat*, then what is this?" uncovering the *b*, and Joey said, "Beat."

Writing is excellent for learning about the alphabetic principle.[7] As children try to write a word, they say it and search for letters to match the sounds they are making. Anna Sumida, this issue, shows how children's writings can be used as their first reading books.

In addition to process writing, Jackie had dictation in the early part of the year to reinforce the letter sounds being learned. Sometimes Jackie dictated word families to help students focus on the initial consonant. When they had difficulty hearing the sounds, Jackie emphasized her pronunciation of the words. After dictating a few isolated words, Jackie would dictate a sentence, or the children would make a sentence, with the dictated words. The children enjoyed the dictations and often asked for them. With regular spelling patterns, this form of writing may help students become aware of the predictable relationship between the sounds of words and the letters the words are made of.

Whole language emphasizes the use of good literature in the classroom. The problem for beginning readers, however, is finding material they can read without too much difficulty so they will not get frustrated and discouraged. This is particularly a problem for children who speak a dialect of English, or who are unfamiliar with the language in books, and from our study, for children who take longer to acquire phonological awareness. One way of solving the question of what to use as a beginning text is to use the children's own language as in the language experience approach in which the children dictate the text which they will then read. Another way is to use the children's writings (see Sumida, this issue). A third way is to use books that make reading easier by repeating phrases over and over; for instance,

> *I am Major Jump. I am Major Jump's horse. I am Major Jump's dog. I am Major Jump's cat. Boo!*[8]

Many children learn to induce the English sound-spelling patterns from either language experience texts or from books with repetition of phrases (see Sumida, this issue). However, some children memorize the phrases or the language experience text and pretend to be reading, but do not reach the next critical step: They do not try to match carefully the words on the page with the words they are saying, and they do not induce the alphabetic principle from this kind of instruction.

Use of phonetically regular words and repetition of words makes reading easier for some beginners, thereby promoting a feeling of success, mastery, and ownership. If the words are repeated but not in a predictable way, the child will need to focus more on the actual print. Therefore, Jackie started reading instruction using storybooks[9] with controlled reading vocabulary, in which the vowel sounds and blends are introduced systematically and gradually. The first few storybooks are, indeed, written in somewhat stilted language. However, the pride at being able to read may be just as important to beginning readers as a good storyline.

Even though the stories Jackie used for reading instruction were written with controlled vocabulary, they permitted the lively discussions so important for developing reading comprehension (see "Framework for Reading Instruction," this issue). The students predicted, validated, and answered comprehension questions. There was ample opportunity for language development as quite a number of the words were unfamiliar to our Hawaiian children. Often, the children had difficulty reading a word which was not in their oral vocabulary and whose meaning they did not know.

Jackie used these storybooks only for the early stages of reading instruction. By the end of the year, only a handful of students were still reading in these storybooks. From the start, she encouraged her students to read from a wide range of books, and whenever they had finished an assignment, they sprawled on the rug in the library corner, looking at or reading a book of interest to them.

Children who are just beginning to learn to read usually read out loud. It is as if they must hear the sounds of the words to understand them. Our experience has been that for many children, initial reading aloud is a necessary step to silent reading. The top readers in Jackie's class read silently within a few months, and in order to monitor their reading, she would ask comprehension questions for which they had to find and read aloud a sentence that provided the answer. With the slower reading groups, Jackie used various ways of reading aloud for instruction: Sometimes the whole group of five or six children would read together chorally, sometimes it was two groups that would alternate, or

[4] Au, K.H. "From reading to literacy: Changes to the KEEP curriculum" in *The Kamehameha Journal of Education*, *1* (1), 1989, 1-8.

[5] Stanovich, K., A.E. Cunningham, and B.B. Cramer. "Assessing phonological awareness in kindergarten: Issues of task comparability" in *Journal of Experimental Child Psychology*, *38*, 175-190.

[6] Makar, B.W. *Primary Phonics: Storybooks*. Cambridge, Massachusetts: Educators Publishing Service, Inc., 1985.

[7] Rudolph Steiner, the founder of the Waldorf Schools, already in the early 1920s argued that writing should be taught before reading. Three books were translated in the sixties and early seventies: *Roots of Education*; *The modern Art of Education*; and *The Kingdom of Childhood*. London England: Rudolf Steiner Press.

[8] Cowley, J. *Major Jump*. San Diego: The Wright Group, 1986.

[9] Makar, *op. cit.*, see Footnote 6.

[10] Goodman, *op. cit.*, see Footnote 1.

sometimes, to answer comprehension questions, individual children would read aloud. Often reading aloud was preceded by reading "silently" which, because of the difficulty in keeping their voices down, meant reading out loud, but at different speeds. We found that group reading aloud could be a very social and enjoyable event.

Discussion

Our study suggests that within a whole literacy curriculum, some children—those who have not developed phonological awareness as measured by the "strip the initial consonant" task at the beginning of first grade—benefit from brief systematic lessons that encourage learning the code and using phonic cues when reading. Clearly, comprehension and prediction of what makes sense are also essential tools for figuring out words. Instruction should aim at helping the child use both the phonic tools as well as his meaning-making tools to work out unfamiliar words.

Fundamental to a whole language approach is the idea that children learn when they are attending, when they are trying to make meaning of their experiences (relate them to knowledge they already have), and when they are motivated. These conditions for learning are essential to making any teaching strategy work, including those that we have described.

Our findings suggest that including in the reading curriculum a systematic approach for the development of letter-sound knowledge is unnecessary for many students. For some, however, it appears to be helpful, namely for those children who have greater difficulty developing phonological awareness.

Moreover, we as adults cannot predetermine what will be meaningful to a child and what will be motivating. Thus, some children, particularly dialect speakers, may not be very familiar with the language in many books, and, consequently, learning to read such texts may be frustrating for them. Other children, those who experience difficulty remembering how letters sound or how letters are formed, may find process writing discouraging, and a sound card or a word family that helps their memory can give them a sense of how they can learn and how they can make writing their own tool. Whole language teachers "are aware of the universals of human learning, of language and cognitive processes, but they understand the different paths each learner must take."[10]

Footnotes

[1] Goodman, K. *What's Whole in Whole Language?* Portsmouth, New Hampshire: Heinemann, 1986.

[2] See B. McCarthy, *The 4Mat System: Teaching to Learning Styles with Right/Left Mode Techniques*, Barrington, Illinois: Excel, Inc., 1981, 1987.

[3] Clay, M.M. *The Early Detection of Reading Difficulties*, Third Edition. Auckland, New Zealand: Heinemann, 1985.

Implementation of a Whole Literacy Curriculum

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Introduction

In recent years, there has been growing support among educators for whole language programs in our schools. The Kamehameha Elementary Education Program (KEEP), created in 1971 to assist teachers in improving the reading and language arts achievement of Hawaiian children, has kept pace with current trends in literacy education. Following a period of extensive program revision, KEEP's new whole literacy curriculum was implemented at seven Hawaii State Department of Education (DOE) elementary schools during the school year 1989-90. The changes to the KEEP curriculum have been summarized by Kathryn Au in "From Reading to Literacy: Changes to the KEEP Curriculum," in the January 1990 issue of *The Kamehameha Journal of Education*[1] (see also Scheu & Au, this issue).

The implementation process was guided by KEEP consultants who provided DOE teachers with program support, such as supplying materials for classroom use, suggesting instructional methods, demonstrating lessons, and so forth. During the first year of implementation, consultants were deeply involved in the process of learning more about the whole literacy philosophy and currriculum components.

In May 1990, the Evaluation staff of the Early Education Division of Kamehameha Schools conducted interviews with KEEP practitioners, both consultants and DOE teachers, who had been implementing the whole literacy curriculum at a public elementary school on the Leeward coast of Oahu. This school was typical of KEEP sites in general; the proportion of Hawaiian students enrolled was quite high, 59% of the total. We, in Evaluation, requested these interviews in order to gain an awareness of practitioners' perspectives about various aspects of program implementation at the end of the first year.

We spoke with eight DOE teachers, two at each grade level, from kindergarten to third grade. These teachers had been chosen by KEEP site staff to provide us with feedback because they had been most active in implementing whole literacy components. We also interviewed four KEEP consultants, one at each grade level. Each consultant worked with about five teachers within her grade level.

Teachers' responses to our interview questions quite naturally focused upon their personal experiences implementing curriculum components in their own classrooms. The consultants, on the other hand, were able to give a broader perspective of the implementation process as each one had communicated with and observed all of the teachers she supported.

This article includes a summary of the responses of KEEP site staff and teachers to the following questions:

1. **What does whole literacy mean to you?**
2. **What are the biggest curriculum changes taking place in the classroom?**
3. **How easy/difficult is it to implement whole literacy program components?**
4. **Is a whole literacy approach effective with our targeted population?**

What does whole literacy mean to you?

Integration was the term used most often by teachers and consultants to describe what whole literacy meant to them. According to the kindergarten consultant, "Whole literacy is the reading and writing connection. They're inseparable, especially in the lower grade levels. Some kids come in feeling like they can write but can't read, so when they can read their own writing, it's very powerful." Another consultant remarked that integration is encouraged, not only within the language arts, but across content disciplines, "We use language arts to help students learn more about the world around them."

"It's a whole experience," stated a third, "Nothing is isolated or compartmentalized." A fourth consultant contrasted this philosophy with the "traditional" approach to education, "which has been to break down learning into separate areas." A teacher summed up the whole literacy approach to skills instruction: "Skills are not isolated . . . now we're integrating skills within the context of reading and writing."

The whole literacy view that reading and writing occur within a meaningful, purposeful context was also emphasized. Students wrote letters to teachers, aides, and peers to share information, ideas, and feelings. "It's making children aware that there's a purpose for reading and writing," stated a teacher, "and it's encouraging them to relate reading and writing, as much as possible, to their daily lives."

Several practitioners thought that the whole literacy program was more student-centered, more responsive to children, than "traditional" programs. One teacher pointed out that her students could choose which books to read for independent reading. They also had cards, provided by the teacher, listing options for follow-up activities. She observed, "I don't get grumbling from my students on the follow-ups like last year." She reiterated the position often stated by whole language supporters, "When you don't give students a choice in what to do, they do it for you and not for themselves."

What were the biggest curriculum changes that took place in the classroom?

One of the whole literacy program's strongest recommendations was that teachers use authentic works of literature in the classroom (Bishop Estate trustees allocated monies during 1989-90 for KEEP DOE sites to purchase thousands of books to stock classroom lending libraries). The consultants at this particular site selected over 3,000 books. The lending libraries provided students with a wide range of genres for in-school and at-home voluntary reading. According to one teacher, "My room is flooded with books! When students finish their work, or we have a free-time activity, they can read books. Students choose lending library books to take home. There's a lot of reading going on." One consultant en-thused, "I've never seen kids read before school, during recess time, or go into the library and argue about things in books. Kids are beginning to know authors and genres."

The whole literacy curriculum also encouraged literature-based instruction (including the use of nonfiction tradebooks), during teacher-led comprehension discussion in small groups. One teacher noted, "The kids enjoy reading literature much more than the basals." Another added, "My students look forward to it. They ask me, 'What book are we going to read next?'"

For some teachers, though, it was difficult to let go of the basal for instructional use. Basals offered the security of "established" reading levels. Explained one teacher, "I use basals not because I don't like storybooks, but because I need to know where my students are at. Since basals are leveled, you can use them for grading." Most of the teachers interviewed continued to use basals to some extent, some for specific purposes, such as content area reading, word study skills, or vocabulary development.

A consultant stated that students' easy access to authentic works of literature helped foster their ownership of literacy. Ownership, the overarching goal of the current curriculum, has to do with students valuing their own ability to read and write (see Scheu & Au, this issue).

kids own literacy skills, they can use them in any circumstances. They can take part in planning the curriculum; they can take an idea and design their own project."

Other curriculum changes supported by the whole literacy program were related to teachers developing vocabulary and word reading skill lessons in the context of reading and writing activities. Most consultants observed a decrease in the number of skill worksheets given and an increase in the amount of writing. One noted, "There's more systematic teaching of the writing process and also lots of opportunities to write."

How easy/difficult is it to implement a whole literacy program?

The eight teachers and four consultants whom we interviewed were asked to rate the ease/difficulty of implementing each whole literacy component on a scale from 1 - 4, with 1 = Easy and 4 = Difficult. In Table 1 on the following page, the nine instructional components of the whole literacy program appear in order of increasing implementation difficulty as perceived by consultants.

Each of the eight teachers performed these ratings according to her own experiences in the classroom. However, each consultant was asked to consider *all* of the teachers she supported, including those who were not as actively involved in implementation, in performing her ratings. Therefore, it is not surprising that the consultants' mean ratings of implementation difficulty were higher than those of the teachers that we interviewed (see Table 1).

Consultants and teachers agreed that the first two components, **use of literature** and **voluntary reading**, were easiest to implement at all grade levels. This was because, as one consultant observed, "We provided the materials (books). If the teachers had to do that, it would have been difficult." She continued, "Teachers all have the gut-level feeling that literature is good for all kids." Another consultant remarked, "There's an increasing awareness of how to use literature and extending it through other activities." A teacher concluded, "It's easy and fun to use literature." According to practitioners, students took advantage of the lending libraries; they had more opportunities to do voluntary reading during the school day, and voluntary reading at home also increased.

Most of the teachers and consultants interviewed thought that the **integration of reading and writing** component was also easy to implement. The most frequent examples of integrated reading and writing involved follow-up activities to reading. After students finished their reading, they could choose among several writing activities, such as response logs, story maps, writing a letter to a character in the story, and so forth.

In the case of **integration of reading and writing into content area instruction**, consultants' opinions were divided; two thought it was easy to implement for their teachers and two indicated it was

Table 1

Consultants' and Teachers' Mean Ratings of Ease/Difficulty in Implementing Whole Literacy Components

	Consultant Mean	Teacher Mean
1. Use of Literature	1.40	1.19
2. Voluntary Reading	1.50	1.00
3. Integration of Reading and Writing	2.16	1.69
4. Vocabulary Skills Instruction in Context	2.22	2.56
5. Integration of Reading and Writing into Content Area Instruction	2.60	1.93
6. Small-group Guided Comprehension Discussion	2.62	1.94
7. Writer's Workshop	2.68	2.56
8. Word Reading Skills Instruction in Context	3.00	2.81
9. Development of Student's Ownership of Literacy	3.30	2.07

Note: 1 = Easy 4 = Difficult

fairly difficult. One of the latter explained, "It's hard if it (content material) has always been taught in compartments, and that was most of the experience for a lot of teachers." Several of the teachers, both experienced and new, expressed difficulty with this component. One new teacher commented, "Sometimes it's hard coming up with ideas of what to do. I feel the burden of having to get materials and finding time to develop units. Once I got into a content unit, it was a struggle to develop it the way I envisioned."

Also difficult to implement, from the consultants' point of view, was **small-group guided comprehension discussion**. The KEEP whole literacy program continued to support the practice of teacher-guided comprehension discussion, following the Experience-Text-Relationship (ETR) method for narratives.[2]

An experienced teacher noted that small-group guided comprehension discussion was similar to what they were doing before, with the old KEEP curriculum. But, "instead of (asking) direct questions from the basal, discussions are more open and there are more personal responses." The consultant at her grade level observed that small-group guided comprehension discussion was more closely focused on story elements than before. She cautioned, however, that there was a limit as to how much emphasis could be placed on those elements without losing one's enjoyment of a piece of literature.

"It shouldn't be difficult to implement, but it is," said another consultant of this component. She explained that, since students' comprehension was assessed in terms of their ability to identify story elements and develop personal responses to literature, some teachers concentrated only on those elements and neglected to teach a broader range of comprehension strategies such as ETR, sequencing, and so forth. "The story frame (identification of story elements) is not enough," asserted the consultant, "it's an end." She emphasized that students still need to develop comprehension strategies and critical thinking skills to achieve that end.

A new teacher pondered over another problematic area, how to engage low-achieving students in guided comprehension discussion. She reflected, "With the higher group, it was very easy. With the low ability kids, it was a struggle to know how to work a story. Some kids were still struggling with ABC's."

Practitioners generally had difficulty implementing **writer's workshop**. One source of assistance came from outside speakers. A new teacher at first grade commented, "Getting it started was not that easy. At first it was frustrating. Then I heard Mary Ellen Giacobbe (Vermont Writing Project) talk about writing, and I presented my students with, 'What would you like to write about?'" The first-grade consultant said that hearing Mary Ellen Giacobbe was a turning point for the other teachers at her grade level too: "Everything clicked."

Consultants served as instructional models by demonstrating writer's workshop for their teachers. The third grade consultant concluded, "Most of the teachers felt confident about it. We put a lot of effort into this." Teachers provided models too. The kindergarten consultant declared that two of her new teachers started implementing writer's workshop following the example of two experienced teachers. She said, "By the end of the year, all of the kindergarten teachers bought into it."

One new kindergarten teacher described the process she went through with her students: "In the beginning, I didn't think they could write that much. Now, I'm trying to have them write every day. Sometimes it's free-choice writing, and sometimes it's a response to literature, to something that we've read in the large group." She described one purposeful context within which writing could occur: "We chose a special person each day. Other students would interview him/her. I would web the information on the board. The students would help me write a story (about that person). We'd post it. Then, other students would write messages (to that person)."

One particular challenge for the teachers we interviewed was how to encourage students through the steps of the writing process. A first grade teacher commented, "They came out of kindergarten thinking that once they write, it's finished; it was hard to get them to go back and work on it." "I can get them to prewrite and write," said a third grade teacher, "but when it gets to revising, it's difficult; I'm able to conference with only a certain number of kids." Other teachers also mentioned difficulties with conferencing and were curious about peer editing as an option.

Most of the consultants observed that students were writing much more than before, but that it was not easy to get them to that point. One noted, "Initially, you have to do it on faith. At a certain point you are getting input from the children about the direction to take, and that's scary, to be responsive to them in this way, and also exciting. You can learn about the children from their writing. It helps you to be a better teacher."

Vocabulary skills instruction in context and **word reading skills instruction in context** were among the most difficult components to implement for the teachers interviewed. These components were problematic for experienced teachers, who were used to traditional methods of skills instruction, and for new teachers, who were unsure of what "in context" meant instructionally.

Surprisingly, teachers' ratings of difficulty for **vocabulary skills instruction in context** exceeded those of consultants. One new teacher admitted, "It was a struggle. I know I need to work it more. I've tended to isolate the skill from context." Some teachers narrowly interpreted this component to mean looking for words in the text that students might not know, pointing them out to students, and discussing them. A consultant explained this practice: "Some teachers were accustomed to vocabulary development lessons where the basals identified the words that kids should study." Such teachers, she continued, tended to extend familiar practices from the old curriculum into the new one.

Another consultant remarked that vocabulary skills instruction in context was easier to implement for teachers who were doing more connected reading and writing and more explicit and colorful writing. A teacher agreed, "I would say (to my students), 'Let's see what words the author uses to describe the character.'" This teacher would then encourage her students to use these descriptive words in their own writings about the character (see sample on opposite page).

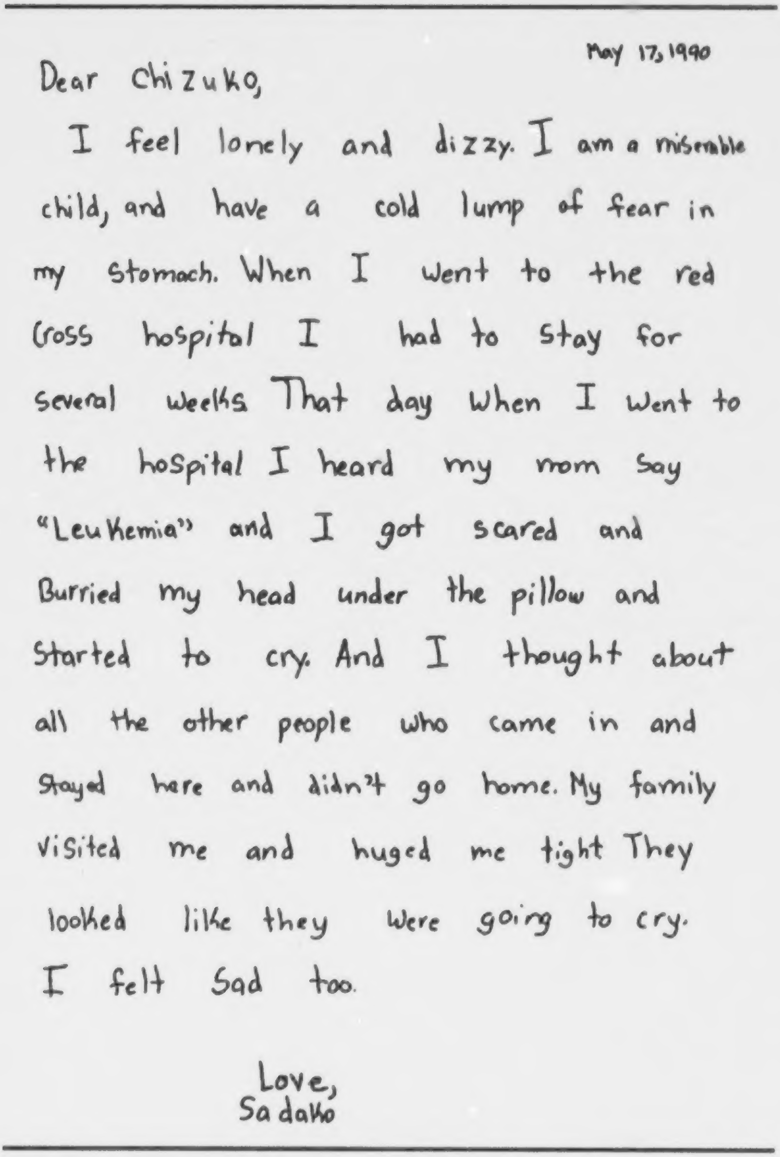
The **word reading skills instruction in context** component was identified by one teacher as, "The greatest hang-up within a whole literacy approach." According to a consultant, "It's hard for some teachers to see that doing word reading skills instruction in an authentic context really helps kids to get it better. Teachers may think that unless they bring it up, the kids won't get it, that opportunities won't arise. They need to learn how to *create* opportunities and plan (word reading skills) activities that take advantage of such opportunities (see Nakanishi, this issue)."

One consultant observed, "In context—that's the hardest part. It was easier for the teachers to do word reading skills instruction in isolation." Again, some teachers narrowly interpreted this component, as with vocabulary skills instruction in context, to mean pointing out certain features in text. They would point out short vowel sounds, consonant blends, and so forth. Another consultant explained, "It was kind of difficult because of what people were used to doing," for example, basal word study skills and skill worksheets.

An example of word reading skills instruction in context was given by a kindergarten teacher. Very few of her students knew beginning letter sounds. When she wrote a sentence on the board, for example, the *morning message*, she would read part of it, and see if her students could figure out the rest. She would ask, "What letter does this word start with?" If needed, she would refer to the students' names listed on the board, for example, "This has the sound */d/* as in Desiree." She continued, "We'd go over names, go over letters, and so on." To reinforce the purpose of this activity, she and her students would then close by reviewing the morning message in total.

Poetry was mentioned by an enthusiastic consultant as another context in which to encourage students to develop word reading skills: "If a poem has enough examples of a feature, such as contractions, a teacher could introduce that feature to students, after sharing the poem with them for enjoyment" (see Sumida, this issue). This consultant recommended that teachers underline words or features that students could then use in their own writing. "Skill needs come out of writing," she emphasized.

One teacher reiterated the importance of meaningful contexts for the instruction of word reading skills: "In context, students see that in order to read and understand sentences or a story, they need to learn to read these words." Another explained, "I try to incorporate skills into writing because it's most functional and purposeful then." Her message was, if students wish to communicate in writing with others, they need to learn how to write words.



May 17, 1990

Dear Chizuko,

I feel lonely and dizzy. I am a miserable child, and have a cold lump of fear in my stomach. When I went to the red cross hospital I had to stay for several weeks. That day when I went to the hospital I heard my mom say "Leukemia" and I got scared and Burried my head under the pillow and Started to cry. And I thought about all the other people who came in and Stayed here and didn't go home. My family visited me and huged me tight They looked like they were going to cry. I felt sad too.

Love,
Sadako

Figure 1. This third-grader has written a letter from the perspective of Sadako, of *Sadako and a Thousand Paper Cranes*, by E. Coerr. She has used certain expressions from the book to enhance her letter.

There was a big discrepancy between consultants' and teachers' ratings of implementation difficulty for the last component, **development of student's ownership of literacy**. Most of the teachers we interviewed rated this component as easy to implement. As one noted, "KEEP has pushed trying to get students to publish books. When students can describe themselves as authors, they develop ownership." While some teachers' experiences with this component were fairly smooth, consultants were having a rougher time with the rest of the teachers they supported. Consultants voiced concerns about how to help *all* of their teachers implement this component.

One reason for consultants' concern appeared to be the lack of clarity about the concept. One consultant questioned, "What is meant by student's ownership of literacy? It's so abstract. What do you say to convince teachers it should happen in the classroom, and how it should happen?" Another reason, she went on, had to do with teachers' uncertainty about changes in the teacher's role and the student's role: "Unless a teacher is really secure, it's hard to accept the idea of student ownership and implement it." The kindergarten consultant agreed, "It was not that easy. It may be harder for kindergarten teachers to do this (component) because they may feel that kids cannot make their own choices." Another consultant added, "For a lot of teachers it was difficult in terms of the way they've operated and the models they've experienced as students themselves."

For all of the difficulties consultants experienced with this component, one observed, "When you get through to teachers, they can do almost anything. For a teacher, ownership is taking ideas and running with them." In order to do that, remarked another, "The teacher needs to be open and flexible."

Is a whole literacy approach very effective in guiding our targeted population towards literacy acquisition? Why or why not?

All the consultants responded "yes" to the question above, and the majority of the teachers agreed. As noted before, the enrollment of Hawaiian students at this site was fairly high, 59% of the total. In addition, many of these students could be classified at risk, both educationally and economically. One consultant summarized the arguments in support of the whole literacy curriculum:

1. Models of standard English are provided through literature read-alouds and voluntary reading which enable students to express themselves better in oral and written language.
2. Students see purposes for acquiring skills and developing concepts.
3. Students engage in real applications of knowledge and skills.
4. Learning takes place in a social/educational setting that is culturally compatible.

As another consultant stated, "It's more effective than what we were doing in the past. The students are getting comfortable with the written and spoken word. They hear more, write more, and speaking will come."

The importance of whole literacy in the early grades for KEEP's targeted population was emphasized by some practitioners. A kindergarten teacher said that most of her children didn't know the alphabet when they came to school, but, "Now they want to learn the alphabet because they want to write." "I think it's one of the better ways to help at-risk students, not just Hawaiians," reflected another teacher. She said, "It's good for developing students' self-confidence, their self-worth, even self-initiative, because they see it (reading and writing) as something they can do themselves."

Two consultants focused upon the sensitivity and responsiveness to children that is encouraged in the whole literacy program: "This approach recognizes where the child is at, the child's interests and his experience base, and moves the child along from there. It's accepting them where they are."

Most teachers and consultants agreed that the whole literacy approach had a positive effect upon students' attitudes towards literacy activities. As one consultant observed, "Definitely, whole literacy has the potential for getting kids to love books and language, more than traditional approaches."

Several teachers pointed out the merits of literature-based instruction versus traditional basals. One commented, "Basals don't encourage students' awareness of authors. When we read literature, the students feel that they can pick up a book and say, 'I've read this book,' or 'I know this author.'" Another added, "With the basal, you finish a story but there's (always) another story. But when they finish a book, they have a feeling of accomplishment."

The power of literature to move students was strongly endorsed by this teacher: "I think literature affects their lives; they relate it to their lives." "With the whole literacy approach, personal connections are more likely," observed another. A third summed up, "The biggest benefit is the attitude of the students."

However, a cautious evaluation of the whole literacy curriculum was given by one teacher: "I think it's as effective as any other approach I've seen. I hadn't used this approach before, and I thought my students might still need drill and practice. In comparing my students with others (at this grade level), they seemed no worse, and no better." This teacher was quick to add, "It (whole literacy) does seem to tie things together more for them."

Conclusions

During the first year of implementation of the whole literacy curriculum, consultants faced the challenge of helping teachers translate the whole literacy philosophy and program components into classroom reality. For most practitioners, it was a year of experimentation, reflection, and growth.

One problematic aspect with implementation was that the whole literacy curriculum was very different from the curriculum models most teachers and consultants had experienced as students and educators. For experienced teachers, certain instructional beliefs and habits had to be overcome, such as reinforcing the idea of the teacher as the authority, prescribing what students should read and write, isolating skill instruction, and so forth, in order for them to implement key components. New teachers had to struggle with implementing the program from the ground up. This was especially difficult with components where few instructional models were available.

Consultants admitted that skill instruction in isolation was easier to do and took much less planning, but they came to value the idea that skills lessons in the context of authentic reading and writing activities "really helps kids to get it better."

The teachers and consultants at this site perceived the KEEP whole literacy curriculum to be particularly effective in encouraging their students' positive attitudes toward reading and writing. One consultant commented, "From this (positive change in) affect, they can get into academics." In time, we will learn whether KEEP students' academic achievement in reading and writing surpasses that of students in classrooms where other approaches to literacy instruction have been implemented.

Footnotes

[1] Au, K.H. "From reading to literacy: Changes to the KEEP curriculum" in *The Kamehameha Journal of Education*, *1*(1), 1990, 1-8.

[2] Au, K.H. "Using the experience-text-relationship method with minority children" in *The Reading Teacher*, *1*, 1979, 677-679.

THE KAMEHAMEHA JOURNAL OF EDUCATION

EARLY EDUCATION DIVISION
KAMEHAMEHA SCHOOLS

Volume 2 Number 2 September 1991

BEST COPY AVAILABLE

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The *Kamehameha Journal of Education* publishes articles on the education of Hawaii's children. This journal is for teachers, principals, curriculum developers, college and university faculty, superintendents, and those in political arenas; in short, it is for anyone concerned with educational matters. Journal issues center around themes such as educational program descriptions, teaching strategies, instructional settings, cultural and learning-style differences, and current educational topics, all dealing with ways Hawaii's children come to enjoy school and to succeed in it.

Published by the Early Education Division, Kamehameha Schools, Kapalama Heights, Honolulu, HI 96817. The opinions expressed herein do not necessarily reflect the position, policy, or endorsement of the Kamehameha Schools/Bernice Pauahi Bishop Estate.

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Preface

For decades, schools in the United States have used norm-referenced, standardized tests with a multiple-choice format to measure students' achievement. These tests have been used for many different purposes. Now an energetic reform movement in educational assessment is gaining momentum. The movement is still grasping for an identity, as the varied adjectives used to describe it suggest—authentic, alternative, holistic, multidimensional, or performance-based. Yet, several themes are clearly visible: (a) tests should measure those achievements that are needed to function competently in school life and everyday life, (b) tests should assess students' achievement in ways that are consistent with instructional practices, and (c) teachers and students should participate actively and reflectively in the assessment of student achievement.

Hawaii's educational community is active in this new movement, and therefore, we have dedicated this issue of the ***Kamehameha Journal of Education*** *to the topic of authentic, alternative assessment for both program evaluation and instruction.*

The contributions are organized into three sections. The articles in the introductory section give a flavor of the issues, concerns, and directions of the movement. Brandt's lively and engaging piece about driving and reading contrasts the ways in which competence is assessed in the two areas and the assumptions and values underlying the two assessment approaches. Young's paper broadens the scope of assessment and portrays the need not only for performance-based assessments, but also for multiple measures of performance and the measurement of multiple abilities and intelligences. His description of measures developed and used within the DASH (Developmental Approaches in Science and Health) program at the University of Hawai'i provides several concrete examples of authentic, alternative measures. Hambleton presents a balanced overview on the changes occurring in educational testing practices, while Heath raises thought-provoking questions about the new assessment movement.

The second section focuses upon the development and use of authentic measures to assess students' learning in the whole literacy curriculum of the Kamehameha Elementary Education Program (KEEP). In the first paper, Yumori and Tibbetts summarize teachers' and teacher consultants' perceptions of the first year of implementing a portfolio assessment system. In this article, teachers reflect upon the difficulties in moving from the old to the new forms of assessment. Next, Tibbetts and Peterson explain how they developed a standardized, performance-based, criterion-referenced assessment of third grade reading comprehension that is to be used within the context of internal, formative evaluation. Giuli, who directs the federal grant for the Native Hawaiian Model Curriculum Implementation Project, describes how he has *brought outside experts together to develop authentic measures of student learning; these measures are to be used for external, summative evaluation.*

The last section consists of a set of commentaries solicited from prominent local and national educators who are concerned with authentic, alternative assessment of the students of Hawai'i. We asked our contributors to present their views on this new movement.

*In the articles that follow, the authors use the terms **standardized**, **norm-referenced**, or **multiple-choice** when they refer to traditional assessment measures. In most cases, the use of one or more of these terms refers to tests that have all three characteristics. **Standardization** refers to the uniformity of test administration procedures—instructions, test-taking conditions, materials, and scoring procedures. **Norm-referenced** tests are measures in which an individual's score represents his relative standing to a norm group, the sample of students on whom the performance norms were derived. They are tests without standards for passing or failing. **Multiple-choice** refers to a test format in which students choose the best answer(s) from a set of answer options.*

Norm-referenced tests are always standardized, but not all standardized tests have norms. For example, a criterion-referenced test may be standardized, but a student's performance is evaluated by comparing it with a criterion set for performance rather than with the performance of a norm group. Finally, multiple-choice tests may or may not have norms and may or may not be standardized.

The standardization and the multiple-choice format of traditional achievement tests were responses to the need for accurate, reliable, and unbiased measurement. Proponents of the authentic assessment movement argue that these traditional tests, however, neither measure what they were intended to measure, nor what they ought to measure; they do not provide an adequate basis from which to make valid inferences about students' attainment of curricular objectives or their ability to use in real life what they have learned.

In the papers that follow, the authors share their perspectives on authentic assessment. They discuss what it is, what it is not, why the movement began, and where it is going. In raising and exploring issues, the authors encourage us to examine our definitions of and assumptions about assessment, to think about the purposes for which assessments are used, and to understand the challenges involved in developing and implementing authentic measures.

The editors

Meet Morris Lai!

Whenever someone in the Hawai'i educational community needs an evaluation done, they think of Morris, whether the topic is assessing pre-engineering instruction or the effects of bilingual teaching approaches on pidgin speakers. As Senior Evaluator of the Evaluation Office of the Curriculum Research and Development Group, University of Hawai'i (UH) College of Education, Morris presides over some ten independently-funded evaluation projects each year.

Morris graduated from 'Iolani School. He was only 17 then and had never been away from the islands. Going to college on the mainland was an adventure in discovering a different world. He reminisces about his first fall at Stanford University: "I saw all those trees without leaves and thought to myself, 'Oh! Those poor dead trees!'" He had settled upon Stanford because, among other things, it was on the west coast and not likely to be that much colder than Hawai'i. There was another reason: Morris' fascination with the life of his grandfather, possibly the first Chinese-American to study at Stanford. There were wonderful tales of his forefathers. His mother plunged into the family history for seven years and emerged with the book, *He Was a Ram*, about Morris' great-great-grandfather, born in the Chinese year of the Ram.

Mathematics was Morris' choice of study at Stanford. Why? He answers, "We had to write so many essays at 'Iolani. I was tired of writing essays every week! Also I thought mathematics was elegant and aesthetic." At Stanford he had leading scientists, mathematicians, and Nobel Prize winners as instructors. Though awed at the time, he now says of many of them, "They weren't good teachers! They shouldn't have been allowed to teach! I should have complained, but in those days you never thought about formally complaining about the teaching abilities of your professors."

Perhaps it was these experiences with his famous mathematics and science professors that attracted him to education; perhaps it was teaching summer school mathematics at 'Iolani while a UH graduate student in mathematics; or, perhaps it was that, as a doctoral student at Berkeley, he came to find that the very abstract, high level of mathematics facing him was too removed from the real things in life, the things that matter.

Whatever the reason, Arden Ruddell, Professor of Education at Berkeley at the time, lured Morris away from the Berkeley mathematics Ph.D. program. When this mentor was killed soon thereafter in a tragic helicopter accident, Morris felt an even greater urgency to continue in education. And what an illustrious group with which he was able to study —Robert Gagné, Henri Scheffé, Henry Kaiser, Leonard Marascuilo, and James Guthrie. Thus, Morris was able to combine his background in mathematics with his interest in education and forge a career in evaluation.

The variety of educational programs Morris evaluates astonishes: pre-school tuition-assistance programs, early childhood education programs, bilingual education for Hawai'i Creole English (pidgin) speakers, HIV/AIDS education, Hawaiian Studies Program, to list a few. He accepts many projects offered to him even though time is usually scarce. "As long as a topic is interesting, I would consider evaluating it," Morris says. "I learn from all of them." And Morris is interested in many things.

Take nutrition! The hippie influence at Berkeley during the late sixties turned him against the fast-food establishment and after a miserable case of the flu, he vowed he would eat nutritiously and never get sick again. He soaked up all there was to know about nutrition, reading every book on the topic in the public library. It was only fitting, therefore, that after he started the Evaluation Office at the Curriculum Research and Development Group of the University of Hawai'i in 1974, his first, major, extramurally-funded project was to assess the nutritional behavior, knowledge, and needs of fifth, eighth, and eleventh graders in Hawai'i. Since he believes evaluations should benefit those who are evaluated, Morris was pleased when the findings from that study were used to guide the development of the nutrition education curriculum for public schools in Hawai'i. He is now conducting a follow-up needs assessment of nutrition education.

Another of his current efforts is serving with UH Professor, Helen Slaughter, as co-principal investigator of the evaluation of the Hawaiian Language Immersion Program. He hopes that this program will prevent the otherwise unavoidable conclusion—the demise of the Hawaiian language. He feels his evaluation addresses an important question: How is language learned when the teachers are not native speakers of the language and when the children do not have a larger community, often not even their parents, for practicing their second language? One notable problem is the inadequate supply of books and instructional materials written in Hawaiian. For Morris, it is wonderful to see and hear the children speaking Hawaiian fluently, as he, himself, studied the Hawaiian language for four years at the University of Hawai'i. Once again, his personal interests are intertwined with his work.

Morris welcomes the new movement in evaluation toward authentic assessment, toward assessing tasks the individual will be dealing with in the real world. "In the past," he says, "we made the mistake of asking only whether something works, that is, whether the scores are higher in one situation than in another. Now the philosophy is that there is no single answer. Rather, the purpose of an evaluation is to provide information about the *concerns, claims,* and *issues* of a program and, in this way, enhance the discussion among the various stakeholders—policymakers, administrators, teachers, parents, students, and others. Today there is less reliance on quantitative data and inferential statistics, as we have come to realize that what works in one situation may not work in another."

Although there is less emphasis now upon scientific (or positivistic) rigor and more emphasis upon whether the evaluation benefits people, Morris thinks this new approach encourages more comprehensive evaluation and promotes a better understanding of phenomena. "When you understand the phenomenon better, you can improve the product and improve education for the students. Before we would ask, 'Which condition produces the better data or results? Which is worse?' Now we ask, 'What is workable? How can we improve things?'"

For example, in the Early Provisions for School Success Program, the new way of thinking about evaluation has led to studying teachers whose students have had, for two years in a row, the best improvement in test scores within their school district. To discover how these successful teachers taught, they were observed in the classroom, they filled out questionnaires, and they were interviewed. They all gave evidence of (a) excellent skill in managing the teaching environment, (b) knowledge of the level at which each child was performing, (c) student choice within teacher-initiated activities, and (d) an inherently humane approach to teaching. These success-related behaviors could now be shared with other teachers.

These brief examples highlight the formative evaluation process that Morris believes in. When called upon to evaluate, his goal is to find weaknesses in order to improve conditions, rather than to produce evidence to eliminate a program. For instance, if large-scale testing shows that children are having trouble in learning something, then intensive observation of the learning process is necessary to see what might be changed to ensure the children's success.

Morris has a dream—to develop, with his colleague Paul Brandon, their office into an evaluation center, where the latest evaluation procedures and authentic assessments can be tried out in practical settings to determine their feasibility. He says he has learned a lot from the recent evaluation theorists; for example, the kinds of qualitative data that can inform decision making, weaknesses of previous evaluation models, and ways of looking at causality. However, he finds that many theorists develop their approaches to evaluation from ivory towers. The recommendations from these pure theorists are not easy for the practitioner to deal with. The real world of evaluation includes deadlines, difficult audiences with varied agendas, and limited resources of time and money. The theorists often seem unaware of the difficulties, the costs, and the time involved in doing classroom observations in a service-oriented setting, not to mention the ever-changing nature of the classroom.

On the basis of his many years of experience in dealing with the practical aspects of evaluation, Morris has criticized at national conferences the ivory-tower mode of evaluation. For example, he has taken issue with the concept of randomization of classrooms or schools to conditions. Randomization in the real world, he believes, is not necessarily desirable; attrition is natural and community events can affect classes or schools differently even after random assignment. Morris' critiques resonate in his practitioner-audiences, who also must evaluate programs in the real world.

So conceived, Morris' evaluation center would meet an urgent need for the practitioner to become a key player in evaluation theory-building and developing evaluation procedures. And Morris is ideally suited for leading such a practical, concerns-based evaluation center. He was, for four years, a Project Director at the Far West Laboratory for Educational Research and Development where his colleagues included such prominent educators and researchers as Ned Flanders, Walter Borg, Meredith Gall, David Berliner, Betty Ward, and William Tikunoff, to mention a few. There he also had the opportunity to interact with Michael Scriven, Jim Popham, Dick Jaeger, Bob Linn, Barak Rosenshine, and Jane Stallings. Morris has spent 17 years as a practitioner-evaluator working for diverse audiences in Hawai'i under constrained conditions. Then there is his philosophy of "net benefit" evaluation, which he describes as follows: "When you do an evaluation, it should have a net benefit—it should help the children, or improve learning conditions, or save money in the long run . . . and this benefit should be larger than the cost to conduct the evaluation."

Gisela E. Speidel, Editor
Kristina Inn, Production Editor

Reading and Driving: A Revealing Analogy[1]

__Mary E. Brandt__ is Evaluation Specialist with the Planning and Evaluation Branch, Hawaii State Department of Education, and is a member of the graduate faculty, College of Education, University of Hawaii at Manoa. Her background as a cognitive psychologist has led to her research and teaching in the area of language, culture, and cognition and to her recent focus on the development of alternative assessments.

Mary E. Brandt

My son turned fifteen this year and in Hawaii that means one thing—getting a driver's license. Besides thinking such things as, "That's far too young" and "I'm too old for this," the academic part of me began thinking, "Hmmm, how interesting." Going beyond my personal reaction to this major marker in a parent's life, I began reflecting on how society measures driving competencies and the stark contrast it makes with how a segment of society (our educational community) measures certain academic competencies, such as reading.

As my son slid behind the wheel for the first time and I walked to the passenger side, I began considering how teaching and learning to drive are so fundamentally different from how reading is typically taught in school.

As my son renewed his learner's permit at police headquarters, enough time and, I hope, thoughtfulness about the analogy between driving and reading had taken place. I'd like to share this analogy with you in this brief article. I hope you find it as revealing as I did.

The Big Picture: What Society Values

Society openly declares what it values by what it regulates, licenses, and controls and by how it exercises this power. In driving, an area familiar to most of us from our everyday experience, society's purposes are evident—protecting the individual and securing public safety. The value the public places on these purposes allows the state to exercise legitimate power. Thus, values are translated into how an individual is taught to drive, how an individual's driving competence is measured, and what level of competence is acceptable. Regulating the teaching, measuring, and standard-setting for driving is seen as a legitimate use of power.

We do not question the expense of maintaining a "driver testing" bureaucracy, nor the expense of developing "good" multiple-choice tests about the rules of the road, nor the one-on-one assessment of actual driving performance. We welcome high standards in driving and see it as proper to deny the "stamp of approval" to those who cannot meet the high standards. We believe it fair and necessary to offer unlimited tries. After all, a driver's license confers freedom of movement, and more importantly, affects our quality of life and access to jobs, our livelihood. We accept the expense; we approve the testing and assessment procedures; we applaud the standards; we support the unlimited attempts. Why? There are a number of assumptions and beliefs we hold that fundamentally underlie our positive attitude toward this whole complex area of driving. Are they the same in the area of reading? That's what I'll turn to next.

Society's Legitimate Interest

We have no doubts that the state has legitimate interests in regulating driving competence. There's a direct and rather obvious connection between such competence and public safety. And, as I stated earlier, the value placed on personal and public safety is consensually shared and highly important to our everyday life.

There is a far less obvious connection between reading competence and society's well being. What's more, the links between a person's well being and the reading competence of others is even less obvious. We do value personal and public well being but how that value plays out in the reading competence of the public-at-large seems to be beyond our everyday grasp. Thus, society's stepping in to ensure quality assessment of reading and high standards, to say nothing about the expense this may entail, is seen as not quite legitimate.

Everyone Can Learn

A belief that permits high standards and their assessment in driving is that everyone can learn how to drive and drive well. Some may take longer than others, but that has more to do with getting the needed experience and not with some personal and inherent inability to learn. This consensual belief about driving is not held about reading.

Our reading tests do not have standards; they have norms. Norms only tell us that some score better than others. Norms say nothing about how good is good enough. The education community is reluctant to set standards, much less high standards, in part because there is a belief that not everyone can learn to read and read well. And if some children take longer than others, it's not because of lack of experience or how they are taught; it's because they are deficient or incapable. When such mistaken beliefs are held, putting money into quality assessment and establishing high standards are seen as wasteful in the former case and unfair to cruel in the latter.

If we believed that everyone is capable of learning to read, then classroom teaching of reading would be different from how it is presently taught. That is, teaching so that all children learn would be typical and failure the rare exception. Teachers would view changing their classroom pedagogy as worth the effort; the public would view it as worth the cost.

Multiple, Authentic, and Direct Assessment

Remember back to when you got your own license. Driving competence, the everyday kind of *car* driving competence, is assessed in two ways. One is a typical paper-and-pencil, multiple-choice test situation. The correct answer to each question is right there on the paper and the task is to pick it by bubbling in the oval with a No. 2 pencil. Getting so many correct means you've passed.

I'm uncertain how the standard was determined or what criterion was used. But the test items all appear to have face validity—facts about driving safety and rules of the road—and all appear to be non-esoteric because there is no need to spread out the test takers along a bell-shaped normal curve. What's tested is what is important for a driver to know. Knowing these facts does not ensure performance of them, but not knowing them would result in not doing them.

My son read the driver's manual and breezed through this assessment. He's good at taking these kinds of tests. However, I shudder to think what would happen on our highways if the state awarded licenses only on the basis of passing this type of test. Answering these test items correctly is truly a remote proxy of the real thing. For example, knowing that the car must come to a full stop at a STOP sign does not ensure that a driver will actually know how to stop a car safely.

A much more direct and authentic way of assessing the whole complex performance of driving is needed. Fortunately, the state (actually every state) feels the same. A performance assessment is required—getting behind the wheel of a real car on real streets while a trained assessor makes judgments about how well you perform the actual complex act of driving! The driver is held to high performance standards. Yet having high standards does not mean the new driver cannot get better with experience. The high standards are not those of an experienced expert; rather they're appropriate for an experienced novice.

Authenticity of these two types of assessment combined with directness of the performance assessment permits high standards. More importantly, such authenticity results in the public considering both the assessments and the standards as fair and appropriate.

In Hawaii and across the country, reading is formally assessed in one way only—by standardized, multiple-choice, norm-referenced tests. Unlike the pencil-and-paper driving test, the relationship between reading test items and reading as it is currently defined[2] is not apparent—a *content validity* issue. Just as getting the paper-and-pencil driving test items correct doesn't mean a person can drive well, getting the reading test items correct doesn't mean a person reads well. Unlike the driving test, however, not getting many items correct on a reading test does not mean a person cannot read with understanding. No one really knows what NOT getting them correct means—a *criterion validity* issue.

A norm-referenced reading test doesn't lend itself to standard-setting, either. There is a mathematical conversion from number correct to a percentile or a category score (a stanine) on a bell-shaped curve. These converted scores can only tell whether you scored better or worse than another group who took the same test. These converted scores cannot tell you how well a person reads a story, a chapter in a science text, or a news article.

Unlike driving test scores, scores on these types of reading tests may not even be *remote proxies* of the "real" thing. In fact, reading test scores can improve without any related improvement in the real thing. In some cases, what improves test scores are improved test-taking skills and not necessarily reading competence.[3] Knowing the items or not knowing the items, neither case is highly related to actual reading. Using such test scores to set standards is spurious.

But let's say there is a remote relationship and, as my son did on the paper-and-pencil driving test, a person did well (that is, better than others in this instance) on the multiple-choice reading test. Is that sufficient for judging reading competence?

In driving, it's easy to say, "No way! I want to see if that person can actually drive a car." Unfortunately in education, we don't take the next step and assess the actual, direct, and complex performance of reading. Education has stopped at the multiple-choice test score, and a norm-referenced one at that. The one-to-one performance assessment (reader to trained assessor) of reading is not seen as vital, critical, or worth the expense. Imagine what would happen to our highways if we stopped assessing actual driving performance. It seems to me that this picture is figuratively true of the state of reading.

We used to rely on teacher judgments of how competently a student could read. Parents could get a pretty good idea about how well their children could read by sitting down and reading with them and by observing how often and what their children read. Now parents, teachers, and the community rely on test scores. What happened?

Teaching-for-Learning

Diane Barreth,[4] a national education figure, summarized her recent talk to Hawaii educators about school reform by saying that we must change the preposition in *teaching and learning* to express the change needed in our classrooms. Teachers may no longer take the stance that it's their job to teach and it's the student's job to learn. The two complex acts (teaching-learning) should not be separated in this way. Rather, teaching-learning must once again become intimately connected. The conjunction *and* does not express such intimacy.

Diane proposed that in our speech and in our thoughts we reconnect the two acts with the proposition *for*: *Teaching-for-learning*. Such a connection implies responsibility for learning. That was Diane's message. As a society we cannot afford failure to teach so that children learn. *Teaching-for-learning* —simple, profound, frightening. Do we ever *teach for learning*? How?

When I began thinking about how I taught so that my son learned to drive, a few things became very clear.

One, *an active and purposeful model is necessary.* I had been a driving model, unbeknownst to me, for the past 15 years that he's been sitting next to me in the car. Consequently, he is familiar with the roads that we've traveled, the basic functions of gas pedal, brake, steering wheel, rear view mirror, and so on. Lately he's taken on a more vocal interest and has begun actively noticing how I drive. I can tell because of his commenting on when I didn't use my turn signal and should have, remarking on why I didn't brake sooner, and noting that it was a yellow light that we had just zoomed through!

My driving is functional. It has a purpose. It accomplishes something important. All this my son knew, again, from sitting there next to me. He understood the act without being able to perform it. Motivation to drive was not a problem. For my son, it was there from the start.

Two, *a safe environment is critical for beginners.* "Safe" meaning the normal and expected errors of any novice would have no dire consequences, either physically or emotionally. An empty church parking lot worked well for my son and me, and later, with more experience, our lightly traveled neighborhood streets replaced the parking lot. Driving downtown, on the freeway and Pali Highway, came last. But in all instances, from the simple to the more challenging, there was this sense of safety conferred by competence.

Three, *right from the start the learner does the whole thing.* In each "safe" environment, my son was engaged in the complete act of driving. Practicing isolated bits and pieces made no sense. Adjusting the rear view mirror, turning the motor on and off, switching the turn signals on and off, these acts out of context mean little even if they are mastered to perfection. What's more, I realized something about sequences and hierarchies. Because I first put the key in the ignition, second buckled my seat belt, third adjusted the mirror, and so forth, did not mean that my son had to follow this sequence to accomplish the same thing. My sequence was not the only sequence. There were relatively few things that *had* to precede other things, like having your foot on the brake before you shift out of PARK.

Four, *keep quiet and let the learner do it.* With a safe environment, let errors happen. There's no way to prevent them anyhow. Lectures are words; driving is doing the whole thing. When my son took a turn too wide the first time, he corrected it the second time, or the third time. I did not need to point out the error. As a teacher, I found my job to be knowing when and what to explicitly point out and when to keep quiet. And surprisingly, the number of these essential things to point out were quite few. He could then focus on these essentials while performing, while driving. I was truly the "guide on the side."[5]

Looking back, what my son and I went through was *teaching-for-learning*. I realized that our experience matched what educators are calling for in schools—a collaborative apprenticeship.[6] Does a comparable apprenticeship occur when reading is being taught? From first hand teaching experience, classroom observations, curriculum manuals, and journal articles, the answer is "No."

The teaching of reading continues to mirror the testing of reading. That is, bits and pieces are taught in isolation, whether it's sight words or phonics. There is a prescribed sequence for learning the bits and pieces, and this reflects a hierarchical belief about what reading is: First, letter names and sounds must be learned and then certain combinations, followed by words, then simple sentences leading to paragraphs. Teachers tell and students do "Drill and Skill" worksheets until the "bit" is mastered. Children are rarely required to do the "real" thing. The closest they may come to it is reading out loud from basals with prescribed readability levels and little story structure (or story grammar). Reading a full story that is beautifully crafted comes last.

Often the psychologically safe environment is missing. Errors are punishing; they are consistently, publicly, and all too quickly corrected.

The whole language movement is encouraging, but it seems that most classroom teachers rarely ask their students to do the real thing; they rarely apprentice them into the actual world of reading where the teacher of reading, like the teacher of driving, becomes "the guide on the side."

Concluding Remarks

There are other contrasts between driving and reading that I have not noted, and many, I'm sure, that have not even occurred to me. My goal was not to be exhaustive. It was to have you, the reader, consider this analogy, reflect on its usefulness to you, and finally to have it be generative so that new perspectives lead to new insights.

Footnotes

[1] Mike Heim, administrator of my section (Department of Education, Evaluation), had the initial idea for this article and invited me to co-author it with him. We talked and shared one another's views on this analogy between reading and driving. Since then, Mike turned it over to me, and I thank him for his generosity. He made me think by drawing contrasts I never would have thought of (for example, between a car's mechanical feedback system and the lack of one in reading), many of which I could not do justice to and consequently do not appear in this article. However, for the ones that do appear I must take the responsibility for how well they are expressed.

[2] Although there are variations in the current definition of reading/literacy, Garth Boomer, an Australian educator, captured the sense of it for me: Active literacy is "the ability to inject one's own thoughts and intentions into messages received and sent; the ability to transform and to *act* upon aspects of the world via the written word. To function in this way, learners must go much deeper than the coding and encoding of written symbols. Beneath the surface iceberg of this ability is the ability to revise, to arrange, and to deploy personal experiences and thoughts as well as the ability to imagine other people doing the same thing." (Cited and quoted in R. Routman, *Transitions: From literature to literacy*. Portsmouth, NH: Heinemann, 1988, pp. 15-16.)

[3] Bussis, A. & Chittenden, E. (1987). Research currents: What the reading tests neglect. *Language Arts*, *64*(3), 302-308. Also, Owen, D. (1985). *None of the above: Behind the myth of scholastic aptitude*. Boston: Houghton Mifflin.

[4] Barreth, D. (1991, January). Presentation at the School/Community-Based Management seminar, Department of Education, Honolulu, Hawaii.

[5] Eresh, J. (1991, February). *Performance assessment in writing*. Paper presented at the Spring Conference of Hawaii Association for Supervision and Curriculum Development, Honolulu, Hawaii.

[6] Bayer, A. (1990). *Collaborative-apprenticeship learning*. Mountainview, CA: Mayfield Publishing. Also, Brandt, M. E. (1990). Getting social about critical thinking: The power and constraints of apprenticeship. *Quarterly Newsletter of the Laboratory of Comparative Human Cognition*, April, *12*(2), 56-63.

Toward Multidimensional Assessment[1]

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Donald B. Young

In the last two decades, new definitions of learning have emerged that are based on cognitive, philosophical, and multicultural research. These perspectives suggest that

> meaningful learning occurs when a learner has a knowledge base that can be used with fluency to make sense of the world, solve problems, and make decisions. Learners need to be self-determined, feel capable, and continually strive to acquire and use the tools they have to learn. They need to be strategic learners who have a repertoire of effective strategies for their own learning. Finally, they need to be empathic learners who view themselves and the world from perspectives other than their own.[2]

These new perspectives call for rethinking the roles of students and teachers in the learning process. It is primarily through dialogue and interaction that students become knowledgeable, self-regulating, strategic, and empathic. This calls for collaboration in classrooms among students and between students and teacher. The collaborative classroom is characterized by shared knowledge, shared authority, teachers as facilitators, and heterogeneous groupings of students.

The essence of learning is making connections, linking new information to prior knowledge, and testing its application in real-world situations. Learning in school must be related to tasks and experiences that students engage in outside school.

Such changes in our definitions of learning and teaching and in the contexts of classrooms also call for changes in assessment practices. A new vision of assessment is evolving. It is not yet complete, but what is clear is that the traditional ways of assessing student learning are inadequate with regard to our new ideas about the nature of intelligence, ways of knowing, and the utility of knowledge.

Multiple Intelligences

One of the major influences on our current views of learning has been the theory of multiple intelligences developed by Howard Gardner,[3] a cognitive psychologist at Harvard University.

Gardner challenges the single intelligence view by defining intelligence as the ability to solve problems or fashion products valued in at least one cultural setting. He believes that the human mind has developed over time to do a wide variety of tasks. Mind is not one thing, but a set of intelligences

- linguistic
- logical-mathematical
- bodily-kinesthetic
- spatial
- musical
- interpersonal
- intrapersonal

keyed to different kinds of tasks. Gardner also believes that normal people have all of these intelligences to different degrees.

Gardner argues that traditional education develops only two of the seven intelligences—linguistic and logical-mathematical—at the expense of the other five. Since individuals have different degrees of intelligences, the "uniform school" cannot work. He suggests that we must provide choices and establish individual-centered schools. In such schools, everybody takes some of the same courses, but a lot of attention is paid to developing individual intelligences to the fullest.

Major Shifts in Assessment

Assessment needs to be *intelligence-fair*. We generally believe that instructional materials should be rich, fun, and motivating. Tests should be like that too. Gardner says tests should

- not be extremely subjective.
- have total face validity; that is, they should obviously measure what they intend to test.
- rely on multiple measures of knowing; that is, provide multiple ways for students to demonstrate what they know or can do.
- show strengths as well as weaknesses. Students should not be penalized for what they reveal they don't know. Such information should be used to guide instruction.
- be appropriate to the domain and subject.

Instruments used to test students need to be sensitive to the developmental level of the individuals as well as to individual differences. Results of testing should be used to help individuals, not to rank them in comparison to their fellow students. Projects, according to Gardner, are much better than tests because they require synthesis and application on the part of the student; they are more user-friendly; they are more intelligence-fair; and they are much closer to the kinds of evaluations used in real life outside school. This is not generally true of standardized, formalized tests.

Assessment builds on student strengths as learners, is ongoing and continuous as opposed to isolated and time-specific.

Toward Multiple Assessment

Such changing views of intelligence, learning, and teaching are leading educators to explore shifts of emphasis in assessing learning. With an expanded concept of intelligence and learning, it is increasingly important to know that the traditional paper-and-pencil test is only one way to collect data on student learning. The broader concept of assessment includes such tests, but it also includes rating scales, observations of student performance, critiques of student projects, interviews, and reviews of the student's background and previous performances. Assessment builds on student strengths as learners, is ongoing and continuous as opposed to isolated and time-specific.

Advances are being made in developing multiple ways to assess student progress. New strategies, such as portfolios and day-to-day assessments, are beginning to be widely used. A portfolio consists of student exhibitions that demonstrate mastery of skills of inquiry and expression. Students "show off" what they know and what they can do. Exhibitions require reading, writing, questioning, speaking, and listening. They are the culmination of a series of performances in a subject area.

Exhibitions focus on student abilities to use and display knowledge. They are authentic measures of the learning and the ability to engage in inquiry. They require skillful expression and can motivate and engage students meaningfully in their own learning. Assessment becomes another way of learning and developing deeper understanding. Day-to-day assessment performances can also be authentic and engaging. They become an integral part of the instructional cycle and feedback. Dialogue between teacher and student is intended to help the student assess strengths and weaknesses and identify what needs to be learned, and it helps push the student to the next level of performance.

Still other measures include videotape portfolios that document the learner's interests and accomplishments from initial interview through work during the year to final performance level. Student journals, with weekly entries about projects, progress, needs, and so on, have also proven valuable for both student self-assessment and teacher-student interaction. Creating an atmosphere in which students can reflect on what they know and what they are unsure of and providing time for reflective writing allow students to reveal the progress of their learning to themselves and to their teachers.

Toward Multidimensional Assessment

Gardner describes two approaches to student assessment: standardized, formalized testing and apprenticeships.[4] He thinks that education has veered too far toward standardized testing, which continues to assess only certain dimensions of learning while ignoring the apprenticeship approach. Why do we spend so much time taking tests in school? When we leave school we never take such tests again, while assessment on the job takes place all the time.

In the apprenticeship approach, assessment is based on the broader concept of multiple intelligences. Not only are linguistic and logical-mathematical intelligences assessed, but so, too, are the spatial, musical, kinesthetic, interpersonal, and intrapersonal. This means assessing students' learning, skills, and knowledge as they are applied daily and in culturally diverse contexts. It is broad-based, relevant to life, process-oriented, and based on multiple measures providing thick, rich pictures of student learning.

Kuklieke et al.[5] portray some of the shifts in assessments as shown in Figure 1. These include a movement from decontextualized, atomistic tests to authentic, contextualized tasks such as performances and projects; from single measures to multiple measures of student learning; from simple to complex dimensions of intelligence and learning.

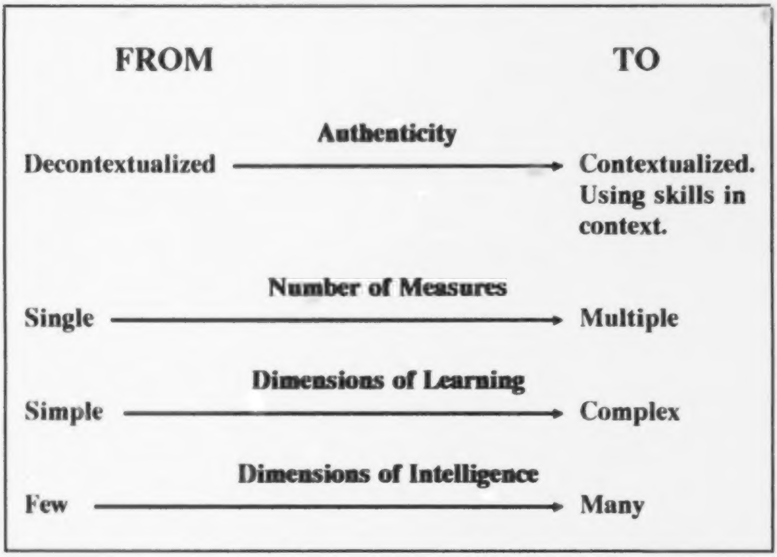
FROM
TO
Authenticity
Decontextualized
Contextualized. Using skills in context.
Number of Measures
Single
Multiple
Dimensions of Learning
Simple
Complex
Dimensions of Intelligence
Few
Many

Figure 1. Shifts in Assessment

Toward Assessment with Instruction

Accompanying the move from a single test as a measure of student learning to multidimensional assessment has been a move to integrate assessment into classroom practice. Instead of viewing "the test" as an isolated event signaling the completion of instruction, the new vision is a continuous learning process in which students orchestrate learning strategies in a dynamic flow as they move in and out of different tasks of learning and assessment. This new vision of learning requires an environment where instruction and assessment are integrated and where assessment is not considered a single event.

Why do we spend so much time taking tests in school? When we leave school we never take such tests again, while assessment on the job takes place all the time.

Valencia[6] notes that sound assessment is anchored in authenticity—authenticity of tasks, texts, and contexts. This means assessing the understanding, integration, and application of concepts and skills in meaningful contexts. Assessment must be continuous, formative, and informative. Drafts, plans, sketches, and outlines all become important parts of the final product. Further, assessments must provide for active, collaborative reflection by both teacher and students. Students must be active participants in designing assessment tasks and be given responsibility for using assessment data to monitor and improve their own learning. These alternative assessments ask students to perform, create, produce, or do something that requires the use of higher-level, problem-solving skills. The assessment tasks themselves are meaningful instructional activities. They are relevant to real-life tasks or represent those common to a particular discipline.

Some Practical Examples

In the *Developmental Approaches in Science and Health (DASH)* program under development at the Curriculum Research & Development Group of the University of Hawaii, we have been researching the use of alternative assessment strategies. Some of these, such as the portfolios and performance assessments, are an integral part of DASH. Among the more innovative strategies introduced in DASH are the Learning Calendar, Working Dictionary, Wonder and Discover Book, and Connections Book.

Students begin each morning recording date, temperature, observations of weather, moon, sun, and other common aspects of their environment on the Learning Calendar, a continuous roll of large-sized paper. Each day ends with a discussion that essentially focuses on the question "What did I learn today that I did not know before?" Results of these discussions are recorded on the Learning Calendar in pictorial symbols and words by students. Discussing and recording what is learned is essential, but it also reveals to the teacher what each child knows and can do with that knowledge. The calendar is periodically unrolled, allowing students to examine their own progress in learning. Fundamental to the DASH Learning Calendar are the connections between what I learned today, what I learned yesterday, and what I want to learn tomorrow.

The Working Dictionary is used to record definitions of concepts students are learning in a big-book format. Only student definitions are recorded, not textbook definitions. This encourages students to verbalize what they know in front of others, one way of further developing understanding. The Working Dictionary becomes a repository of what is known at any given time about a concept, but definitions are constantly changing as new experiences enable students to expand on what they know. The openness of the dictionary approach enables teachers and students alike to gain a clearer picture of what they know.

Extending beyond the lessons in class, the Connections Book, also in big-book format, allows students to record ideas they have about how what they are learning in school connects or relates to events outside school. Teacher-led, open-ended discussion allows students to express ideas they have about what they know from both in and out of school. This provides a wealth of multicultural dimensions to school work and enhances everyone's knowledge, including the teacher's. The teacher now has a way of examining and recording how students' knowledge is developing and especially how students are able to use that knowledge.

Class discussions centered on the Learning Calendar, the Working Dictionary, and the Connections Book often raise questions that have not been answered and were not anticipated by the teacher. These questions are to be cherished. They are authentic questions that students have about what they are learning and the world around them. In traditional classrooms, such questions can be ignored. In DASH, they are recorded and proudly labeled with the student's name in the Wonder and Discover Book. Many are explored in later activities. Some become so engaging that students involve family members in trying to find answers; some the teacher helps with; still others may be left unanswered. But the Wonder and Discover Book provides a way of assessing what kinds of questions students have about their learning.

Focus on the intrapersonal aspects of intelligence leads to another kind of assessment—self assessment. This too is an integral part of DASH. We have successfully used a concept and skill inventory in which students record their own assessment of their understanding of concepts being taught in class. They are asked to respond to a verbal or written list of concepts or skills by checking those they do not understand, those they understand, or those they could teach someone else. This reveals otherwise unavailable assessment data to both teacher and student. Where discrepancies occur between student self-assessment and teacher observations of performance, the student is asked to teach what they know. Results so far have revealed profound insights among some students that teachers never would have imagined.

Summary

Assessment, especially multidimensional assessment, is not a single event. Assessment is a dynamic part of teaching. Assessment helps teachers communicate expectations and standards of learning and performance to students. Assessment helps students gain information about what is valued, set personal academic expectations, internalize required knowledge and skills, promote their self-knowledge about performance, understand who is in control of learning, and improve their learning. We don't know how to do it all yet, but we're trying.

Footnotes

[1] An earlier version of this article appeared as "Multidimensional Assessment" by D. B. Young. (1991). *Hoa Loa'a*, *9*(3), 1-6. Hawaii Association for Supervision & Curriculum Development.

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Changes in Educational Testing Practices[1]

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Ronald K. Hambleton
Edward Murphy

Educational testing in the 1990s is going to look very different from the testing of the last couple of decades. In the 1990s, more educational tests are going to be performance-based and will be more likely to measure higher-order, cognitive skills than their predecessors. Multiple-choice testing is *not* likely to be discontinued in American schools (nor should it be), but this test format is likely to be balanced in school, state, and national testing programs by more direct measures of assessment such as writing tasks, performances, projects, and portfolios.

Our predictions will hardly come as a surprise to teachers and administrators. The educational journals have been filled recently with debates about the merits of current testing programs; many school districts and state departments of education have been reshaping their testing programs;[2] and the major test publishers, themselves, appear to be following the trends by including more advanced skills in their standardized achievement tests.

Important national testing programs, such as the National Assessment of Educational Progress (NAEP), anticipate more use of open-ended item formats and the assessment of higher-order skills in the 1990s to fall in line with new curriculum specifications.[3] The directions for testing in the 1990s seem clear.

Where is the impetus for change in testing practices coming from? Undoubtedly, the impetus for changes in testing, as well as in school organization, curricula, teacher training, and so forth, is coming from the widely-held view that American education is in trouble. Consider some of the recent headlines: "Educators say public schools need overhaul, not reform," "U.S. youth fail math test," and "American schools perpetuate failure." Or, consider the findings in a recent international study of eighth grade mathematics and science skills where American students placed last.[4]

The six national educational goals prepared by President Bush and the nation's governors in 1989 are a response to the problems that have been identified and are intended to improve education substantially by the year 2000. The goals are (a) to prepare preschoolers for learning by improving their health care and nutrition, (b) to increase the high school graduation rate, (c) to make Americans the best in the world in science and mathematics, (d) to reduce the adult rate of illiteracy to zero (from the current level of 13%), (e) to make every school free of drugs and violence, and (f) to require students in grades 4, 8, and 12 to demonstrate competency of higher-level cognitive skills in history, math, science, geography, and English. These goals are ambitious, and, to achieve them (especially goals *c* and *f*), one of the main recommended activities is to assess students, not by their ability to memorize facts and details, but by their reasoning and problem-solving skills. As a result, educational testing will need to change: change what is measured (to reflect curriculum changes) and use an expanded number of item formats to enhance the validity of educational assessments.

The new era in testing has been labeled *authentic assessment*. Though we dislike the term itself because we believe it denigrates 80 years of important advances in psychometric research,[5] many of the ideas underlying the new testing movement appear to be sound, and the results will be better educational assessments for policymakers, school administrators, teachers, students, and their parents. Objective testing, as represented by the multiple-choice and true-false formats can carry a significant part of the assessment load[6] but certainly not all of it. As more and more use is being made of test results in educational accountability (e.g., evaluating teachers, schools, programs, and even states—see, for example, the 1990 NAEP Trial State Assessment at Grade Eight), those affected by the results will want to be sure that the tests themselves are fair and accurately measure what students are learning. Even the most ardent supporters of standardized achievement tests would not claim that those tests measure more than a fraction (about 20%) of what schools expect students to learn, or that the tests can measure with the multiple-choice format, all of the important, higher-order, cognitive outcomes.

If teachers are going to teach to the skills covered by tests (and there is substantial evidence that they do already), current thinking is that tests should measure what is really important in a curriculum.[7] Then, teaching to the test is constructive and desirable. Shepard[8] has even argued that assessments should approximate the learning tasks of interest, so that, when students practice for the test, some useful learning takes place. The same argument was made for criterion-referenced tests in the 1970s and 1980s. Load up tests with the skills that students are expected to learn. Teaching to the test, then, is equivalent to teaching the curriculum. What distinguishes the current movement for authentic testing from the earlier one for criterion-referenced testing are two features: (a) curriculum specialists are arguing for the teaching and assessment of integrative skills that are typically broad and higher-order, rather than the narrower and lower-level, discrete skills (i.e., behavioral objectives) that have been popular in the last 20 years; and (b) there is more emphasis in authentic testing on direct measures of the skills of interest. Criterion-referenced testing and authentic testing are not at odds. In fact, authentic testing is simply a "fresh face" on criterion-referenced testing which highlights the need for the assessment of higher-order, cognitive skills with more direct measures of assessment.

The remainder of this paper is divided into two sections: In the first, we define the term *authentic testing* and consider the case for this type of assessment. In the second part, we consider the testing skills teachers and administrators will need to implement authentic testing successfully.

Authentic Testing

We begin by noting that a single definition of authentic testing has not been agreed upon by its many advocates. Still, the main features of most currently popular definitions are clear:[9]

1. Authentic tests are intended to assess what it is that students know *and* can do, with the emphasis on "doing."

2. Authentic tests should use direct methods of assessment (e.g., writing samples to assess writing, and oral presentations to assess speaking skills) whenever possible.

3. Authentic tests should have a high degree of realism about them. That is, in reading assessments, students would be expected to read reasonably lengthy passages (perhaps several pages) prior to answering questions, and, in mathematics tests, students would be expected to work with rulers, protractors, calculators, and so forth, in solving mathematics problems.

4. Authentic tests might involve (a) activities for which there is no

correct answer, (b) assessing groups rather than individuals (e.g., a group putting on a play), (c) testing that would continue over an extended period of time, or (d) self-evaluation of performances, projects, and so forth.

The first feature is *not* unique to authentic testing. In fact, it is a central feature of criterion-referenced testing.[10] The second feature is not unique either, though it would be accurate to say that authentic testing advocates aspire to see a great deal more use of performance assessments than has been the norm.[11] For example, in the KEEP Program of the Kamehameha Schools, many of the important objectives or school outcomes are measured with performance assessments. Expanded objectives (or domain specifications)[12] and associated tests were prepared using open-ended (essay) questions. An example of an expanded objective in the grade 3 language arts curriculum is contained in Appendix A.

The third feature is very important. The goal is to make testing more like instructional activities *and* more realistic than highly-structured testing tasks in which answer choices are provided. Some changes can be made to multiple-choice testing by providing more realistic stimuli, such as longer, more interesting, and thought-provoking passages, and more interesting questions, but there are practical limits as to what can be done. The use of non-multiple-choice formats holds more promise. Authentic tests might require students to prepare a research paper, conduct an experiment, participate in a debate, and so forth.

The fourth feature is the most problematic because it makes it nearly impossible to produce standardized directions, scoring, and interpretations. Such a feature may be attainable within classroom testing practices (if teachers are fully trained in performance testing methods), but it will be difficult to achieve in school, and certainly in state and national testing programs. The feasibility of more performance-based testing at the state and national level is a hotly-debated topic at the moment.

Testing Competencies for Teachers

The topic of what to teach teachers about testing has finally become a big issue in American education.[13] The issue is big enough that the two largest teacher unions in the U.S., the National Education Association (NEA) and the American Federation of Teachers (AFT), teamed up with the National Council on Measurement in Education (NCME) to produce the AFT, NCME, NEA *Standards for Teacher Competence in Educational Assessment of Students*.[14] The *Standards* were prepared to serve a number of purposes:

- a guide for teacher educators who design and/or approve teacher education programs.
- a basis for teachers conducting a self-evaluation of their educational testing skills.
- a guide for the design of testing workshops for teachers.

- a directive to educational measurement specialists and teacher trainers to broaden their conception of student assessment and convey this broader conception in their research, writing, and teaching.

The *Standards* are more powerful than other efforts to develop testing guidelines[15] because they have the full backing of the two teacher unions. Also, unlike some of the other efforts, these *Standards* were widely circulated and reviewed prior to their publication and were comprehensive in the sense that a broad definition of student assessment was adopted. Also, the *Standards* cover the complete set of teacher activities where student assessments are done. These activities consisted of those occurring: (a) prior to instruction, (b) during instruction, (c) after the regular segment of instruction, (d) with a teacher's involvement in school and school district decision making, and (e) with a teacher's involvement in a wider community of educators.

The testing competencies for teachers were organized by AFT, NCME, and NEA into seven broad areas, with each area further described by a set of skills in which teachers would need to be proficient.[16] The competencies are:

1. Teachers should be skilled in choosing assessment methods appropriate for instructional decisions.

2. Teachers should be skilled in developing assessment methods appropriate for instructional decisions.

3. Teachers should be skilled in administering, scoring, and interpreting the results of both externally-produced and teacher-produced, assessment methods.

4. Teachers should be skilled in using assessment results when making decisions about individual students, planning teaching, developing curriculum, and school improvement.

5. Teachers should be skilled in developing valid pupil grading procedures which use pupil assessments.

6. Teachers should be skilled in communicating assessment results to students, parents, other lay audiences, and other educators.

7. Teachers should be skilled in recognizing unethical, illegal, and otherwise inappropriate assessment methods and uses of assessment information.[17]

By starting with a broad (and appropriate) definition of student assessment:

> Assessment is defined as the process of obtaining information that is used to make educational decisions about students, to give feedback to the student about his or her progress, strengths, and weaknesses, to judge instructional effectiveness and curricular adequacy, and to inform policy.[18]

AFT, NCME, and NEA make the strong case for authentic testing without the rhetoric which is often associated with the plea. No "put-down" of norm-referenced testing, no criticism of current testing practices, and no direct challenge to the multiple-choice format or other objective item formats is offered. But the case for a broader set of item formats in school testing is clearly articulated in all of the competencies but especially in *1*, *2*, *3*, and *4*.

Of course, arguing for the competencies is only part of the solution. Training teachers to meet the competencies is likely to be difficult and time-consuming. It seems unlikely that a one-semester course would be sufficient time since considerable practice by pre-service teachers would be essential. Clearly then, substantial changes in the pre-service training of teachers are called for to meet the requirements of these new *Standards*.

Summary

We think there is a need in American education for new educational assessments to measure important skills that cannot be measured well by traditional forms of assessment. At the same time, alternative forms of assessment, per se, will not necessarily be useful. Their existence certainly does not equate to usefulness. The same basic concerns for test standardization, reliability, and validity are still operative. Perhaps educators would be wise to identify those testing situations where authentic assessment can strengthen their testing programs; then to allocate sufficient time and resources to their development to insure that these new tests will have the psychometric characteristics to meet the expected need; and, also to allocate sufficient time and resources for test administration and test scoring to insure these essential jobs are done well. Finally, it is hoped that the testing competencies recommended by AFT, NEA, and NCME will be taken seriously so that teachers will be prepared to contribute successfully to the authentic testing movement.

Footnotes

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[14] AFT, NCME, NEA. (1990). *Standards for teacher competence in educational assessment of students.* Washington, DC: NCME.

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[16] AFT, NCME, NEA, *op. cit.*, see footnote 14.

[17] AFT, NCME, NEA, *op. cit.*, see footnote 14.

[18] AFT, NCME, NEA, *op. cit.*, see footnote 14.

Appendix A. A sample expanded objective which is assessed with a performance test.

GOAL: The successful third grade student will be able to identify and support the selection of key elements from passages.

SKILLS: The student will be able to identify key story elements and offer evidence to support his/her answers.

SAMPLE TEST DIRECTIONS AND TEST ITEMS

Read the questions below. Answer them by writing in complete sentences.

1. You have just read a story about (name of main character). What is (name of main character) like? Be sure what you tell is important to the story.

____
____
____
____

2a. What is (name of main character)'s most important problem?

____
____
____
____

Explain why this is a problem for (name of main character).

____
____
____
____

2b. What is (name of main character)'s goal?

____
____
____
____

Explain why this is the goal.

____
____
____
____

3a. How is (name of main character)'s problem solved?

____
____
____
____

Explain why the solution worked for (name of main character).

3b. Why will (name of main character) want to meet (name of main character)'s goal?

Explain what (name of main character) will do to meet the goal.

4. What does the author want you to learn from this story? Try to go beyond the details in the story in your answer.

CONTENT DOMAIN

1. Skills of interest include:
    a. Identifying important characteristics of main characters and stating why the characteristics are important.

    b. Identifying goals, problems, and solutions dealt with by main characters in a passage, explaining why the goals or problems are important to the main characters, and why their solutions were successful.

    c. Identifying the abstract, universal message reflected in a passage.

2. Questions should be at or below the third grade reading level, except for specific terminology referring to story elements.

3. Key story elements of interest here include (a) major character, (b) problem/goal, (c) solution/meeting the goal, and (d) the author's message.

SCORING CRITERIA

Sentences do not need to reflect proper mechanics, nor should spelling be considered in grading answers.

1. Details about the main character
    2 - Describes an important characteristic clearly.
    1 - Describes an important characteristic unclearly, or describes a less important characteristic clearly.
    0 - Describes no important characteristic clearly or unclearly.

2/3. Key story elements (problem/goal, solution/meeting the goal)

- 3 - Provides a complete identification of the key story element.
- 2 - Provides a fairly complete identification of the key story element, but lacking in some important aspect; answer does indicate a grasp of the key story element.
- 1 - Provides a more general/specific accounting of the key story element but doubtful that the student really has an understanding of the key story element.
- 0 - No answer, or clear that the answer reflects no grasp of the key story element.

Explanation Points

- 2 - Provides a clear and correct explanation.
- 1 - Provides a partially correct and/or less than clear explanation.
- 0 - No answer, or unclear, or incorrect explanation.

4. Key story element (author's message)

- 5 - Provides an abstract, universal message reflecting the major theme.
- 4 - Provides a less than clear/not quite correct abstract, universal message reflecting the major theme.
- 3 - Provides a concrete or story-based message reflecting the major theme.
- 2 - Provides a less than clear/not totally correct abstract, universal message reflecting the major theme.
- 1 - Provides a specific story-based message not reflecting the major theme.
- 0 - No answer; answer is not responsive to question; answer is responsive but gives incorrect information.

Authentically What?

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Robert W. Heath

Hambleton and others in this issue describe the current enthusiasm for *authentic assessment*. The Program of the 1991 Annual Meeting of the American Educational Research Association[1] reveals how widespread and varied interest in this topic has become. The Program lists papers reporting authentic assessment being used for a variety of purposes and types of subject matter including mathematics, Indian education, history, gifted and talented, and science. In these papers the word *assessment* is modified by adjectives such as *direct*, *alternative*, *performance*, *nontraditional*, *appropriate*, and *portfolio*.

Most, though not all, of the people expressing this enthusiasm are not specialists in measurement. When explaining what authentic assessment *is*, these advocates typically define it in terms of what it *is not* and what it *does not* do. To summarize, it is certainly not standardized, norm-referenced, multiple-choice testing. It does not employ distant estimators of the real performance. It does not lead teachers to focus the curriculum and instruction on only the content tested. It does not ask the student to exhibit rote learning. It does not assess basic skills at the expense of higher-order thinking and reasoning. It does not lead students to believe that there is a single right answer (defined by the test maker) to all questions. It does not require teachers to divert their instruction from important concepts to trivial test-taking tasks. Of course, no assessment at all will also *not do* these things.

As attempts at authentic assessment are implemented and as educators and policymakers interpret and put the results to use, it will be necessary to determine what authentic testing *will do*. Will it:

- provide reliable measurement for large numbers of students?
- be administratively feasible?
- be cost-feasible?
- not introduce bias (ethnic, gender, or socio-economic) into the scoring process?
- provide valid assessment for educational objectives that have value and meaning in society beyond the classroom?

Some of these questions are explored in this issue and elsewhere. I will discuss some aspects of some of these questions that have received, I believe, relatively little attention as yet.

Performance Testing

One of the appeals of authentic assessment is that it claims to sample real performance while standardized tests are comprised of items that serve only as signs or indicators of real performance. This is frequently cited as the *sample vs. sign* argument.

It is possible to distort educational objectives by over-emphasis on performance in assessment. All education is not simply learning to perform. A performance test of writing is intuitively appealing but how does one perform history, biography, or world economics? Must one perform art and music to be an enjoying and enlightened member of the audience? How does a student perform, for assessment purposes, the independence of thought and the intellectual integrity that a liberal education is supposed to nurture? What does a student put in a portfolio that will accurately reflect the wonder and awe associated with astronomy? Can students be expected to perform scientific skepticism on demand?

When students are asked to demonstrate the attainment of such educational goals by writing, we may be merely assessing their writing skills. A student may love and "understand" a Beethoven string quartet but not be able to, or much care to, describe the experience in writing. Another student may be able to write glibly about the same piece and his appreciation of it but be artistically "deaf" to that kind of music. Some kinds of educational achievement simply cannot be authentically assessed by a performance sample. Others, such as surgical skill, dancing, or spoken language may be most appropriately assessed by evaluation of a sample performance, but the student's facility in writing about that skill would be worse than irrelevant—it would be misleading and unfair.

While trying to understand the need for better educational assessment and the relative contributions of conventional and alternative measurement techniques, we must recognize that society's expectations and needs from its educational institutions are as complex and recondite as culture itself. No assessment method will adequately sample all the domains of criterion behavior and attitudes required to pass a culture from one generation to the next and to prepare each generation of children for their unknown future. Both authentic and conventional assessment can only *sample* behavior (test items and performance tasks) and use these samples as *signs* and correlates of other, more meaningful, future behavior and attitudes. The promise of authentic assessment is that it will make these samples somewhat more representative and improve the accuracy of our inferences.

Bias

Ethnic, socio-economic, and gender biases may enter assessment through three routes: (a) the content of the tasks presented, (b) the format of the assessment instrument, and (c) the method of scoring the responses. It may be recalled that one of the reasons multiple-choice, objectively-scored tests became so widely used was that they provided an alternative to the unreliability, and potential bias, of subjectively scored essay examinations. These (then) new types of tests successfully dealt with one of the major sources of bias, subjective scoring. Much has been learned in recent years about how to identify and eliminate the kinds of bias introduced into standardized tests through test format and content. This is not to say that the problem of bias in testing has been solved. However, it seems safe to say that we know more about bias in standardized tests than we know about bias in authentic assessment. Furthermore, the elaborate safeguards against bias now used by large-scale testing programs and professional test developers will probably not soon be matched in authentic assessment. ***Racism, sexism, and other sources of unfair discrimination are highly infectious and resistant social viruses. There is no reason to believe that the nascent authentic assessment is immune.***

Program Evaluation

The last thirty years have seen the introduction of hundreds, perhaps thousands, of special-purpose educational programs designed to meet the needs of different types of students: under-privileged, bilingual, culturally-different, at-risk, and so forth. Simultaneously, the requirement for systematic program evaluation has become a condition for funding many of these programs. During this span of time, the field of program evaluation has grown in sophistication and sensitivity. The conception, design, and instrumentation of program evaluation studies have moved from a simple, experimental-design, summative approach to more formative-interactive models that become part of the program development process. (See Cronbach's landmark book *Toward Reform of Program Evaluation.*[2]) Nevertheless, performance on standardized achievement tests has remained something of a gold standard for assessing the effectiveness of educational programs.

Given the expectations raised by program advocates when seeking support for new programs and given the powerful social (rather than educational) variables influencing achievement, it is not surprising that many of these programs failed to cause significant improvement in test scores. Programs are initiated in response to well-documented needs such as the poor academic performance of low-income students. When persuading funding or authorizing agencies to support new programs, unrealistic expectations are often created (e.g., low-income students will perform at the national norm on standardized achievement tests as a result of the program). Then it is found that these program criteria are not achieved but the dramatic need remains. Program advocates have time, talent, and emotion invested in the new program, and favorable testimonials are available (good people with exemplary motivation have worked hard). Granting all the well-argued faults in standardized tests and their use as criteria for program success, it is also apparent that many, perhaps most, such programs have indeed failed in their stated mission by any standard of educational success. It is predictable human nature that program developers will want to kill (or, at least discredit) the messenger of such findings—the standardized achievement test scores.

Authentic assessment, with authenticity defined by program advocates, may be seen, in part, as an attempt to escape the standards set by conventional testing. To the extent that authentic assessment introduces different, better, more valid measures of educational success, it will serve to improve program evaluation. To the extent that it merely provides lower standards, less credible measurement, and less relevant criteria, it is justifiably suspect in program evaluation.

Just as no student's education can be adequately summarized by a single assessment device, whether authentic or conventional, no good program evaluator would employ a single variable to study the strengths and weaknesses of an educational program. Consider some of the data sources available to a program evaluator:

- observational/ethnographic techniques
- attitude scales and opinion surveys
- sociometry
- cost benefit/cost effectiveness methods
- implementation assessment
- case studies
- service counts
- demographics
- focus groups
- needs assessment

Both authentic and standardized achievement testing can be added to this list. Each will bring its own strengths and drawbacks to the process of program evaluation.

Validity

The core of the enthusiasm for authentic assessment would seem to be in the concept of *authenticity*—that is, validity. This is not the place to explore the technical literature of test validity but let me recommend two especially relevant sources. *The Courts, Validity, and Minimum Competency Testing* (edited by G. F. Madaus)[3] offers some refreshingly clear writing about the validity of educational assessment. This book reports papers given at a conference convened to discuss the consequences of the 1981 decision of United States Court of Appeals, Fifth Circuit, that a state may not deprive high school students of diplomas on the basis of test failure, until it demonstrates that the test is a fair test of what is actually taught in the classroom.

I have found Messick's chapter "Validity" in *Educational Measurement*[4] to be as enlightening as it is difficult.[5] For example, his opening sentence is "Validity is an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationales support the *adequacy* and *appropriateness* of *inferences* and *actions* based on test scores and other modes of assessment."[6] Messick argues for a unitary concept of validity that looks to the consequences of the assessment rather than to the instrument itself. This is in contrast to the traditional categories of *content*, *construct*, and *criterion-related* validity.[7]

> Hence, what is to be validated is not the test or observation device as such but the inferences derived from test scores or other indicators—inferences about score meaning or interpretation and about the implications for action that the interpretation entails.[8]

If authentic assessment is to be more valid than conventional testing, in a given context, it must result in better decisions, actions, and educational consequences.

Consider four facets of validity, and their corresponding accountability, and authenticity.

1. *Instructional validity:* The valid assessment will measure what is actually taught. The student is accountable for learning what is taught. Valid assessment will adequately sample all the teaching and curriculum presented to each student, not just performance tasks. Since instruction is rarely, if ever, standardized, truly authentic assessment that is valid and fair will necessarily vary among teachers. A teacher's interests and her judgment of student needs may not be congruent with the mandated curriculum. And, as anyone who has taught recognizes, teachers do not always teach what they intend to teach. This type of validity is particularly important for identifying the needs of the individual student, for planning his instruction, and for helping him become aware of his progress and deficiencies.

2. *Curricular validity:* The valid assessment will measure what the curriculum contains. The teacher and the school are accountable for implementing the curriculum. Authentic assessment will representatively sample the curriculum so as to reflect the emphases, techniques, and time allocation decisions that structure it. This type of validity is essential if evaluation is to find out what effects the curriculum produces and how it produces them. And as Cronbach says,

> To be influential in course improvement, evidence must become available midway in curriculum development, not in the home stretch when the developer is naturally reluctant to tear open a supposedly finished body of materials and techniques. Evaluation, used to improve the course while it is still fluid, contributes more to improvement of education than evaluation used to appraise a product already placed on the market.[9]

There is almost always a considerable difference between the curriculum, as designed, and what happens in the classroom during instruction. Thus, assessment may be authentic to one and not the other.

3. *Content validity:* The valid assessment will adequately sample the objectives specified. The curriculum developer is accountable for creating materials and techniques that are congruent with specified objectives.

> Most large scale testing programs such as state assessment, minimum competency tests (MCTs), and certification tests have used a set of instructional objectives as "the desired performance domain" against which to judge a test. . . . The term *content validity* as used by the trial court in *Debra P. v. Turlington* referred to the extent to which the test accurately reflected the domain specified for the development of the test—namely, the set of skill objectives defined by state legislation and operationalized by the state board of education.[10]

Just as there is many a slip between the curriculum plan and actual instruction, curriculum developers are less than perfectly successful in creating materials and techniques that match prescribed goals and objectives. Assessment authentic to these objectives may be, to a considerable degree, invalid for the curriculum. This Venn diagram taken from Schmidt et al.[11] illustrates the point.

4. *Social validity:* The valid authentic assessment will sample the

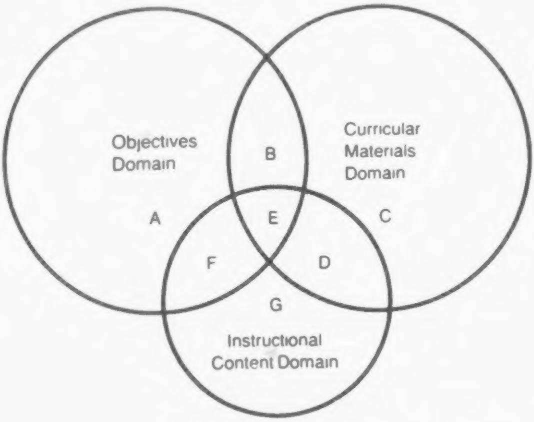

Figure 1. Venn Diagram Showing Interrelationship Between Types of Content Validity. (Taken from Schmidt et al., 1983, p. 135.)

Table 1

Unemployment Rates by Decile on the NLS Math and Verbal Tests

	Percent Unemployed*			
	Math Test		Reading Tests	
Deciles	Whites	Blacks	Whites	Blacks
1	11% (440)**	36% (309)	13% (437)	34% (351)
2	10% (612)	27% (226)	9% (575)	28% (212)
3	10% (648)	30% (135)	10% (649)	23% (127)
4	10% (708)	27% (103)	8% (674)	33% (80)
5	8% (662)	21% (68)	10% (665)	25% (52)
6 to 10***	9% (2269)	16% (69)	9% (2339)	22% (88)
Totals	9% (5339)	29% (910)	9% (5339)	29% (910)

* All respondents who were "looking for work" as of the first week of October 1972, expressed as a proportion of those who were determined to be in the labor force and not enrolled in college.

** Figures in parentheses are the numbers of persons in each decile upon which the percentages are based.

*** Because of the small size of the sample for blacks, the upper five deciles have been combined here and also in the next two tables.

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information, skills, and attitudes that enable people to function competently in society. Those who specify educational goals and objectives are accountable to see that the objectives established for formal education reflect what society truly values —what is rewarded, worthy, and thought to be important. It is, unfortunately, apparent that a gap exists for many people between the objectives of schooling and what is needed to achieve an equitably fulfilling life. Eckland[12] analyzed data from the National Longitudinal Study (18,000 1972 graduating seniors). Table 1, taken from his report, displays the relationship between basic-skills competency and unemployment.

Other analyses by Eckland address income and basic skills achievement. These data lead Eckland to several conclusions:

1. "As shown in the table, a large gap between blacks and whites exists at all levels of competency, although it diminishes somewhat at the upper levels."[13]

2. "More important, the relationships between employment and math and reading ability are negligible for whites but are moderately positive for blacks."[14]

3. "In summary, if a student does not go to college, what he or she scores on a basic skills competency test in math or reading does not appear to matter economically."[15]

4. "It appears that the high school diploma mainly serves a credentialing function in American society, a certificate to hold a job or to go to college. It hurts not to have one. If an individual also obtains the basic skills and competencies that the diploma was thought to verify, so much the better, but only if he or she is college bound. Otherwise it appears to matter very little just how one obtains a diploma, including one by social promotion."[16]

These analyses, and others, strongly suggest that our academic objectives lack social validity. That is, academic objectives do not correspond to the reward system of society. A study of adult functional competencies in California by Nomos Institute, using a series of expert panels in 1982, identified 130 competencies in five categories: cultural, economic, health and safety, interpersonal, and socio-political. These included such specifics as:

- recognize illegal hiring practices,
- recognize cultural variations in oral communication,
- recognize the situational nature of values such as promptness, self-control, etc.,
- accurately interpret abbreviations in want-ads,
- recognize when food is no longer safe to eat,
- know what to do in case of fire,
- identify the effects of having children upon the parent's lives,
- identify causes of emotional stress,
- know how to obtain legal services,
- read a bus schedule with comprehension.

These may be contrasted to the objectives and corresponding authentic assessment listed by the Illinois State Board of Education in their 1985 reform legislation. This testing program is frequently cited as an example of authentic assessment based on a whole language approach to curriculum.

> For the past two years, the Illinois State Board of Education has been working with the Center for the Study of Reading and teachers and administrators from elementary and secondary schools to develop the reading assessment. This assessment is a reflection of the current research and theory about reading. It represents what is known about the reading process and sound reading instruction.[17]

The state reading assessment

- uses full-length texts similar to those encountered by students every day, e.g., narratives as well as expositions in science and history;
- measures students' topic familiarity before they read, then uses this measure to explain student performance;
- partially due to the use of full-length texts, asks higher level questions which evaluate students' abilities to make inferences, explain causal relationships, apply new knowledge and summarize;
- has one, two or three right answers for each comprehension question (This process is more like a post-reading discussion in which students offer alternative responses based on their knowledge of the topic and the meaning constructed from the text.);
- measures students' awareness of reading strategies and their ability to select the most appropriate strategy to solve a given problem;
- surveys students' literacy experiences including their reading and writing activities in school and at home.[18]

These academic competencies contrast sharply with the adult functional competencies. Functional competencies frequently require reading (and math) but such skills are means, not ends. In the Illinois objectives (taken as typical of the whole language and authentic assessment movement), academic reading is prescribed as an end in itself. A distinction may be made between ritualistic and functional objectives, curricula, and assessment. Those of us who spend our entire lives in the temples of education may often forget that most people do not.

Conclusion

As we continue to attempt to improve educational assessment by making it more authentic, the question of "authentically what?" will be answered—by what we do. We may choose to emphasize instructional, curricular, content, or social validity in our assessment procedures. Validity and authenticity are clearly situational. Assessment that is valid (and fair) for revealing the individual student's strengths and deficiencies in the classroom may be invalid and irrelevant for curriculum evaluation. ***Both academic curriculum and classroom instruction may be largely irrelevant to one's competency to function adequately in society and to lead a self-directed, satisfying life.*** In the final analysis, it will be the social consequences of how and what we assess that determine to what degree the assessment is valid and authentic.

Footnotes

[1] American Educational Research Association. (April 3-7, 1991). *Annual Meeting Program, Chicago, IL*. Washington, DC: Author.

[2] Cronbach, L. J. & Associates. (1985). *Toward reform of program evaluation*. San Francisco: Jossey-Bass Publishers.

[3] Madaus, G. F. (Ed.). (1983). *The courts, validity and minimum competency testing*. Boston: Kluwer Nijhoff Publishing.

[4] Messick, S. (1989). Validity. In R. L. Linn (Ed.), *Educational measurement* (3rd ed.) (pp. 13-103). New York: Macmillan Publishing Company.

[5] As Kendall (1963) commented on Fisher's *Statistical Methods for Research Workers* (1925), "It is not an easy book. Somebody once said that no student should attempt to read it unless he had read it before."

[6] Messick, *op. cit.*, see footnote 4, 13.

[7] American Educational Research Association. (1986). *Standards for educational and psychological testing* (pp. 9-13). Washington, DC: American Psychological Association, Inc. Publishers.

[8] Messick, *op. cit.*, see footnote 4, 13.

[9] Cronbach, L. J. (1964). Evaluation for course improvement. In R. W. Heath (Ed.), *New curricula* (p. 256). New York: Harper and Row.

[10] Schmidt, W. H., Porter, A. C., Schwille, J. R., Floden, R. E., & Freeman, D. J. (1983). Validity as a variable: Can the same certification test be valid for all students? In G. F. Madaus (Ed.), *op. cit.*, see footnote 3, 134.

[11] Schmidt et al., *op. cit.*, see footnote 10, 135.

[12] Eckland, B. K. (1980). Sociodemographic implications of minimum competency testing. In R. M. Jaeger & C. K. Tittle (Eds.), *Minimum competency achievement testing: Motive, models, measures, and consequences* (pp. 124-135). Berkeley, CA: McCutchan Publishing Corporation.

[13] Eckland, *op. cit.*, see footnote 12, 128.

[14] Eckland, *op. cit.*, see footnote 12, 128.

[15] Eckland, *op. cit.*, see footnote 12, 130.

[16] Eckland, *op. cit.*, see footnote 12, 135.

[17] Illinois State Board of Education. (1988, February). *Assessing reading in Illinois, 20* (M 8-648B-33, No. 217, p. 2). Illinois: Author.

[18] Illinois State Board of Education, *op. cit.*, see footnote 17, p. 5.

Practitioners' Perceptions of Transition to Portfolio Assessment

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Wendie Yumori
Katherine Tibbetts

Introduction

Proponents of the whole language movement have led the call for "authentic" tasks and materials in classroom instruction. Now, they, and many others in the field of education, are voicing the need for "authentic" or performance-based assessments. In paying heed to these voices, teachers, administrators, and researchers have had to examine their assumptions concerning (a) the conditions which best support children's learning and (b) the most appropriate means by which to assess children's progress in learning.

In 1988, curriculum developers for the Kamehameha Early Education Program (KEEP) made extensive revisions to the KEEP reading/language arts curriculum and assessments.[1] The program was updated to reflect the whole language philosophy in literacy education and to include holistic measures of children's literacy development. KEEP's new whole literacy curriculum and portfolio assessment system were implemented at seven Department of Education (DOE) elementary schools during the school year 1989-90. KEEP consultants helped

DOE teachers implement the new program at each site.

Interviews

In May 1990, Evaluation staff members interviewed four KEEP consultants and eight DOE teachers at a public elementary school on the Leeward Coast of Oahu about their perceptions of the first year of whole literacy curriculum implementation.[2] These practitioners were also asked to comment on the implementation of the portfolio assessment system. In doing so, they reflected on the difficulties involved in moving from old to new forms of assessment.

Traditional Assessment

For many of the interviewees, the biggest difference in the classroom, during the first year of whole literacy program implementation, was the absence of the *Kamehameha Reading Objective System (KROS)* structure, which had previously guided KEEP teachers' instruction and assessment. Under the old KEEP curriculum, the reading progress of each student, from kindergarten to grade three, had been documented on an individual KROS profile sheet. This profile sheet displayed the scope and sequence of reading objectives to be covered by each student on strands such as listening/reading comprehension, information retrieval, vocabulary, phonics/word structure, and sight vocabulary. Students' performances on multiple-choice, criterion-referenced tests of these skill objectives were recorded on their profile sheets. Teachers could look at a profile sheet and tell exactly how many objectives the student had yet to pass on a strand to reach the standard for a given grade level.

Portfolio Assessment

Recent years have seen a significant change in the conceptions of the nature of reading and writing. For example, the definition of reading comprehension has shifted from one that was based upon specific skills and objectives toward the view that reading is a meaning-making enterprise which takes place in a particular social context. The second view has moved curriculum and instruction toward strategic, high-level outcomes, and assessment has come to reflect the new perspective.[3]

Under the new KEEP whole literacy curriculum, the generic term, *portfolio assessment*, has been used to refer to the collection of student work products demonstrating both cognitive and affective development in literacy. All students were required to have certain pieces of evidence in their portfolios. The formal data collection periods for these *required* pieces of evidence were at the beginning and end of the school year. Each student's growth could then be gauged on the six aspects of the whole literacy curriculum (as seen on the following page) by comparing pre- and post-checklist summaries of the student's performance with grade-level benchmarks.

As it happened, consultants did most of the data gathering and record-keeping for the portfolio

Six Aspects of Whole Literacy	Required Evidence
Ownership of reading and writing	Interviews with students and teachers' observations
Reading Comprehension	Students' written responses to literature
Writing Process	Students' writing samples
Language and Vocabulary Usage	Students' responses to literature, writing samples, and voluntary reading logs
Word Reading Strategies	Running records of students' oral reading (miscue analysis)
Voluntary Reading	Voluntary reading logs and teachers' observations

assessment at the beginning and end of the first year. However, implicit in the portfolio concept was the notion that *supplementary* pieces of student evidence, which were not limited to the formats of required evidence, would be added to the portfolio throughout the year by teachers and students. The collection of supplementary pieces was to take place in the context of the on-going instructional cycle, as a natural part of the process.

Transition

The majority of teachers interviewed appeared to have difficulty with the transition from the skills-oriented KROS tests and profile sheet to the portfolio assessment. Teachers' responses generally fell into three categories.

1. The first group included teachers across all four grades who expressed a longing for the structure and specificity of KROS tests to guide their instruction. One teacher said, "When you open the profile sheet, you can see what skills kids need to work on." "In KROS, you know exactly what they (students) know—plurals, initial consonants, etc.," another teacher explained. She saw the portfolio assessment, in comparison, as much more global: "In a portfolio, you can see progress in a child's writing, but it's too broad and not specific enough.

Besides, there's no time to go back and assess each piece of writing."

Teachers remarked on the value of the profile sheet for report cards and parent-teacher conferences because it provided information about a student's reading level and functional performance on skills. Some teachers actually continued to use the KROS comprehension tests as a check on their students' reading level and comprehension skills during the first year of implementation.

One new teacher expressed frustration about not having more information to guide her instruction: "I feel that there is a missing link. I would have appreciated more structure, or knowing what the focus should be. What skills do I need to work on with specific groups?" This teacher's comment raised the possibility that new teachers might not have been getting enough information about the overall philosophy and content of instruction in the new curriculum.

Among the teachers who mourned the passing of KROS, two came up with the same solution—a combination of KROS scope and sequence and whole literacy portfolio assessment. One explained, "Because we, as teachers, are accountable, we want to know where students are in [terms of] skills." Another teacher agreed, "I would like to see a kind of scope and sequence, so teachers and students would know what they were responsible for during the year. What about going back to the strands on KROS and trying to integrate them with this portfolio assessment?" She admitted that reviewing the objectives her students had passed on their profile sheets made her feel like she was doing her job. The profile sheet was thus seen as providing proof that teachers were teaching what they were supposed to and students were learning what they were supposed to.

2. A small, second group of teachers expressed growing confidence in being able to note students' progress in reading and writing by observing what students did in the classroom. One said, "From normal observation, listening to how my students read aloud, I can tell a lot." She continued that she was also able to tell from group discussion whether her students understood story elements such as setting, problem, solution, and so forth; she could then focus her instruction on what her students needed. Another teacher asserted, "As a teacher, you should already know what your students need just by working with them." Both of these teachers emphasized the validity of using their observations to guide their decisions about instruction, a view that is widely accepted and encouraged among whole language and authentic assessment proponents.

3. Then, there were teachers who, according to their consultant, were beginning to value the idea of keeping students' writing portfolios. These teachers began collecting students' writing products for "unofficial" portfolios, consistent with the idea of supplementary evidence. Some teachers encouraged students to select their best pieces for inclusion. One teacher said,

"What I've done is keep samples of students' work and look for gains." She noted that showing samples of each student's products during parent-teacher conferences was an effective demonstration to the parents of what their child could do.

Nevertheless, one consultant pointed out, "Teachers see the value in looking at students' products, but how do you translate that to a grade on a report card? How do you decide if they are at grade level or not?" These were some of the thorny questions that practitioners wrestled with during the transition.

Issues in Portfolio Implementation

Assumptions About the Assessment of Reading Comprehension

The KROS tests of reading comprehension and the portfolio assessment's written *response to literature* task were based upon different assumptions about the assessment of reading comprehension. Resnick and Resnick described the assumptions underlying standardized tests of reading comprehension whose multiple-choice response formats were similar to those of KROS:

> First the passages are short, and the questions favor choppy reading, searching for information in bits rather than interpreting an extended passage with many sections. This testing style reflects the decomposition assumption, treating knowledge and skill as accumulations of isolated pieces of information and not as coherent, interactive systems. Under these conditions, reading comprehension appears to be a matter of finding predetermined answers, not interpreting the written word.[4]

Resnick and Resnick claimed such test exercises have little to do with real reading—the decontextualization assumption. By contrast, in the portfolio assessment's response to literature task, students were expected to demonstrate their reading comprehension and appreciation of a complete story by constructing their responses to the piece in writing. By the end of third grade, students were asked to write (a) a summary of the story, including story elements and the theme, (b) a personal connection to the story, and (c) a personal response to the piece, stating whether or not they liked the story and explaining why. This was an authentic assessment in the sense that it tested for the reading and writing behaviors students were expected to produce in the whole literacy program. In addition, these behaviors could reasonably be expected of participants in the literate community at large.

Task Formats

However, even though authentic assessments may take the place of traditional, skill-oriented assessments, the former may still be viewed in a traditional context. One problematic area at the third grade level was the story summary section of the response to literature. Practitioners' comments about the restrictiveness of the story summary format suggested that the task was interpreted quite literally. This was understandable in light of the fact that KROS tests had also been viewed as "carved in stone."

During the year, the consultant observed, "The story summaries were getting close to book reports; it kills fight. I think you can ask kids to do it in other ways." A teacher confirmed, "It was like pulling teeth. The structure itself was not interesting. Maybe instead, students could write a letter to Dear Abby about the problem, so you can see if they can identify the problem." She also suggested having students take the perspective of a character and try to understand character development from that standpoint. Practitioners' comments indicated that they had perceived the format of the story summaries to be much more formalized than they were intended to be for supplementary pieces of evidence. However, the fact that practitioners railed against the perceived restrictiveness showed that they were exercising responsibility about what should be included in the students' portfolios. (See Note at the end of this article.)

Product vs. Process

The literal interpretation of the assessment task involving story elements resulted in instruction which was, for some teachers, focused on the *product*, the identification of story elements, almost to the exclusion of the *process*. As Resnick and Resnick have noted, "What is assessed is what is taught."[5] One consultant stated, "If you ask for certain things (e.g., story elements), those things get emphasized, and then you're missing a lot of other things." She had to remind teachers that the identification of story elements in story frames was merely an end; it was still necessary to engage students in the process of developing comprehension strategies, such as the Experience-Text-Relationship known as ETR,[6] and critical thinking skills that would enable students to achieve that end. Linn, Baker, and Dunbar expressed concern about this phenomenon:

> We should not be satisfied if the introduction of a direct writing assessment led to great amounts of time devoted to [teaching students] to write 20-minute formulaic compositions [or to] a school year spent perfecting portfolio entries.[7]

The emphasis of the product over the process was, again, understandable in light of the old KROS scope and sequence of reading objectives. With KROS, what was assessed was definitely what was taught. For teachers, the profile sheets pointed the way for instruction in terms of *what* was to be covered and *when*. The assumption was that if students could pass the test on beginning consonant sounds, they were ready to learn digraphs and blends. Then they needed to pass the tests on digraphs and blends so that they could move on to the next objective.

In contrast, the whole literacy curriculum benchmarks provided, in a holistic sense, *what* should be covered in instruction. But the *how* of instruction was to be of equal importance; teachers were to focus upon providing meaningful contexts in which to encourage students' literacy development and helping students' learn to value literacy. Teachers, therefore, needed to become attentive to process issues. Moreover, teachers needed to become aware that there were process-oriented ways in which students could demonstrate what they were learning. For instance, teachers' anecdotal observations of students at work and teachers' notes during conferences with students can be valid entries for portfolio assessment.

James Popham summarized the kinds of transition difficulties schools are generally faced with when they move from traditional to new, authentic forms of assessment:

> In the early days of competency testing, one of the distinguishing features of that (criterion-referenced) test was that it clearly defined the nature of the skill being assessed. It provided teachers with a clear depiction of what it was that they should be pursuing instructionally in their classes. But . . . what happened over the years was that the very clarity that abetted instructional-design decisions also led to a kind of fragmented, skills-focused approach that, in the end, may have been harmful to a number of students. Now the pendulum seems to be swinging away from specificity. There's an emphasis on measuring more holistic kinds of outcomes. The problem, however, (for those who have used the old approach) is that this shift toward more generalizable assessment targets does not yield the clarity of targets for classroom instruction that we previously had.[8]

Teacher Ownership of Assessment

The consultants admitted that their time was taken up primarily with the implementation of the instructional components of the new whole literacy program and that they were not able to help teachers implement the portfolio assessment system much beyond the formal collection of required evidence. However, several consultants echoed the intent of the curriculum developers—that teachers should eventually become much more involved in the assessment and, in effect, take ownership for it. As one consultant said, "It's the teachers being involved in the assessment process that enables them to become analytical about it and, therefore, effective in instructing kids." Another consultant suggested, "We could invite them (the teachers) to become part of the process of development; it could be something we work on together." Recalling the fact that consultants and aides did all of the record-keeping for the old KROS tests, one consultant said, "If teachers have the attitude that KEEP staff does the assessment, then it's not helpful."

Student Ownership of Assessment

Consistent with the value that the whole literacy program has placed upon students' developing ownership of literacy is the program's emphasis on students' participation in the assessment process. In the past, with KROS testing, students were tested and told the results of the tests but otherwise left out of the process. But, as Steve Seidel has explained, "Portfolio assessment demands that students come into the center of the assessment process instead of simply being the subject of assessment. Implicit in that shift is the insistence that the work of learning is primarily theirs."[9]

However, even though students' involvement in evaluation activities is valued in the whole literacy program, there are, as yet, few avenues open to them to take part in this process. Just as consultants proposed to involve teachers collaboratively in assessment, teachers need to engage in the same process with students.

Roberta Camp spoke of the portfolio process:

> Among the most profound changes resulting from . . . projects (in which students have kept portfolios of their written work) are those that have come about as a result of students' looking back at their work. Students have come to expect that they will reflect on the writing they do and that their reflections will inform their decisions. They are assuming greater responsibility for the decisions they make in their writing and for evaluating the results of their decisions.[10]

Camp stated that the teachers who have been involved in portfolio-related techniques want students to become aware of the ways in which they have developed as writers, such that students choose not only their "best" pieces for inclusion in their portfolios, but also those that demonstrate risk-taking and change.

More insights were offered by writing teacher, Kathy Howard:

> The key, I think, is to commit to the portfolio process, rather than to the portfolio as just another file, a repository for writing. When portfolio collection, selection, and reflection are used in concert, a very strong and positive message about writing and writing development is sent to students. Students' reflections, in turn, send an equally strong and equally positive message back to the teacher.[11]

They tell the teacher what the students wish to accomplish, what they have tried, how successful they think they have been at meeting their goals, and what they might try next.

Conclusions

There were many barriers to portfolio assessment implementation during the first year. One was time; there were heavy demands placed upon consultants' time to help teachers implement the instructional components of the new program. Next, many teachers had difficulty letting go of the previous KROS scope and sequence of objectives and tests because it mirrored traditional conceptions about the reading process and instruction and fulfilled traditional expectations of assessment. Nostalgia for the profile sheet was observed even in cases where teachers were quite enthusiastic about the whole literacy curriculum. New ways of conceptualizing instruction and assessment were required by the whole literacy program; teachers were expected to view reading and writing more holistically and take much more responsibility for instructional and assessment decision making. It was quite a change from KROS.

Practitioners raised many questions during the transition. During the implementation of portfolio data collection, concerns included (a) acceptable formats for supplementary evidence, (b) effects of assessment on instruction, (c) usefulness of data for reporting purposes, and (d) processes in which practitioners and students could engage (i.e., selection and reflection of pieces) to make portfolio assessment meaningful.

Curriculum developers have been encouraging the consultants and teachers to discuss their thoughts and concerns with them. Such an appoach, in which everyone participates in problem solving, is more consistent with the whole literacy philosophy than a transmission model of teaching and learning. Program components are thus viewed as dynamic and evolving as practitioners try things out, network with others, and make adaptations.

Note: At the end of the second year of portfolio assessment implementation, this consultant and teacher appeared to feel much more comfortable with the ways in which they were gathering supplementary evidence of students' understanding of story elements. Rather than routinizing the story summary task, this teacher followed through on her proposal to engage her students in a number of diverse tasks. One day, she might ask her students to take the perspective of the main character while writing a letter about the problem in the story. The following day, students might write another letter about the solution from the perspective of a different character. In this fashion, the teacher might cover all the story elements within the course of a week. However, she noted that she would not routinely cover all story elements with each story her students encountered. For example, in one story, the character description and setting might be particularly salient, while in another story, the problem, solution, and author's message might merit the most attention. Using this flexible approach, the teacher and consultant resolved their dilemma.

Footnotes

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Performance-Based Assessment in the KEEP Whole Literacy Curriculum[1]

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Katherine Tibbetts
Anita Peterson

Purpose of Evaluation

In the Evaluation Department of Kamehameha Schools' Early Education Division (EED), we gather, analyze, and disseminate information to support the informational needs of program administrators, curriculum developers, teacher trainers, and practitioners. In order to help them understand in what ways programs are effective and to give them a factual basis for exploring how programs can be improved, we communicate data about student performance, program implementation, school characteristics, and program strengths and weaknesses as appraised by practitioners and students.

With regard to student performance, we seek to address several questions: Are the students meeting the objectives of the curriculum? What is the relationship between achievement of the curricular objectives and performance on norm-referenced achievement tests? How will students perform in the future on measures of achievement?

Transition to Whole Literacy Program

In the 1988-89 school year, the Kamehameha Elementary Education Program (KEEP) shifted from a mastery model of reading instruction to a whole literacy approach.[2] This curriculum shift challenged the Evaluation Department to identify or develop tools appropriate in terms of both the new outcome objectives and the whole literacy developmental model of learning.

Historically, norm-referenced achievement tests have been used throughout the KEEP program to obtain information about students' performance. These achievement tests tell us about the performance of our students relative to other students nationwide, but this information alone is not sufficient for our purposes. Norm-referenced achievement tests do not do a good job of telling us how well our students are progressing toward specific KEEP curricular objectives. In such achievement tests of reading comprehension, students encounter short passages and respond to multiple-choice questions. Thus, we have, at best, indirect indications of how well students integrate these discretely-assessed skills while reading an authentic piece of literature.

The transition to a whole literacy curriculum did include the implementation of a portfolio assessment component (see Yumori and Tibbetts, this issue) so that students' progress from fall to spring could be gauged in the six areas of literacy described in KEEP's Literacy Curriculum Guide.[3]

While program developers and practitioners strive for objectivity in portfolio assessment, several concerns lead us to question the interpretability of aggregated portfolio data for program evaluation purposes. First, ratings of a student's reading comprehension performance are relative to his current reading level, ***not*** his actual grade level. Therefore, we do not know how many students are capable of meeting grade-level expectations. Second, when we aggregate data based on tasks of varying difficulty, as when different reading passages and writing assignments are given within a grade level, we do not have a clear idea of the performance standard these data represent. Third, there is likely to be systematic variation between sites in interpreting more subjective performance criteria that reflect the wide variations in student achievement at different schools.

Need for Alternative Assessments

Based on our informational needs and the data available, we decided to develop a series of performance-based, criterion-referenced assessments. Knowing that assessment influences instruction, we wanted to support the instructional paradigms of the whole literacy curriculum. We also wanted assessment activities to simulate, as closely as possible, student demonstration of reading comprehension skills and strategies in ways that could generalize to meaningful applications.

Since reading comprehension has always been a major focus of the KEEP program, we decided to start development of the new criterion-referenced assessments (CRA) with grade 3 reading comprehension. In subsequent years, we will develop CRA forms for grades 2, 1, and K to assess the emergence of supporting skills, and for grades 4, 5, and 6 to assess the development of increasingly sophisticated skills. Plans for the complete CRA system include assessment of reading and/or listening comprehension, writing, and speaking for students in grades K-6.

The tests are to be administered at the end of the second, third, and fourth quarters. This will allow us to monitor the progress of students toward the end-of-year goals for third grade.

This paper focuses on the development of the third grade reading comprehension tests. We have received very strong support for this project from the EED Director, the KEEP Curriculum Development Unit, the KEEP Training and Dissemination Unit, the Native Hawaiian Model Curriculum Implementation Project, and practitioners. This support has been critical to our success to date.

Test Development

The test development process started with a five-day workshop given by Dr. Ronald Hambleton, an expert on criterion-referenced assessment. This workshop provided us with background information and tools to begin the test development process. Next, we reviewed the KEEP Literacy Curriculum Guide for information about student performance objectives and standards. We also had many discussions with the KEEP curriculum developers about their expectations of students at this grade level, potential indicators of performance, and their hopes and concerns regarding this new assessment. Finally, we visited KEEP classrooms to observe the types of tasks students perform and the whole literacy instructional strategies that teachers use.

We wanted to develop assessment tasks for the CRA that would be very similar to whole literacy classroom activities. Therefore, our instrument would assess students' reading comprehension of intact stories or chapters from children's books that could be easily comprehended without having to read the whole book. We would also be using predominantly "constructed-response" or short-answer items. The use of children's literature and short-answer item formats would increase the apparent validity of inferences from test results about the extent to which students are meeting curricular objectives.

Based on the above, we drafted an assessment blueprint and domain specifications which we took back to the KEEP curriculum developers and test development consultant for review and comments. We then met with a group of teacher consultants to review possible texts for use in the assessment, to review and revise the test blueprint and domain specifications, and to draft assessment activities/test items. Without the teacher consultants' expertise and assistance, we would have required much more time to bring the test in line with KEEP's instructional strategies and curricular objectives.

Pilot and Fieldtesting

We conducted a small-scale pilot test of the first draft instrument with approximately 40 summer school students who were between third and fourth grades. We identified assessment procedures and items that did not work well and revised them. On the basis of a larger fieldtest in November, with approximately 200 fourth grade students (the closest we could come to end-of-year third graders), we again revised domain specifications and assessment items. Following the November fieldtest, we solicited the assistance of curriculum developers and began intensive work on revisions to the scoring schema.

The resulting draft instrument was fieldtested with 335 third grade students in January. These students also took the Stanford Achievement Test (SAT8) reading comprehension subtest (Version 8, Primary 3, Form J).[4] The results of the SAT8 would be used, along with teachers' judgments of students' individual reading levels, as measures of concurrent validity. Again, further revisions were made to the test design, domain specifications, items, and scoring schema.

In May, the test was administered to 362 third graders, most of whom participated in the January fieldtest. While the November and January fieldtests were scored by Evaluation staff and curriculum developers, the results of the May administration were scored primarily by teacher consultants. They suggested further changes to test procedures, format, and content.

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The result of many months of test development is four alternate forms of a performance-based, criterion-referenced assessment for third grade. This assessment is scheduled for two more fieldtest administrations in January and May of 1992. Full implementation is planned for the 1992-93 school year.

Description of the Grade 3 Assessment

Procedure

The revised pre-assessment procedure will mimic recommended KEEP instructional practices as closely as possible, given the restrictions of a paper-and-pencil format. On the first day, students select which of the four texts they would like to read since student ownership is a critical dimension of the curriculum. To introduce each story, teachers use a script that does not reveal actual story content.

On the second day, students read the stories selected and respond to the assessment items. Students are then asked to identify and explain story elements, identify a plausible author's message or theme, and write about a connection between their lives and the story. They are also asked to infer the meaning of unfamiliar words which are embedded in the text. Finally, students are asked to respond to a series of multiple-choice questions.

Test Content

Story Elements. A major emphasis of the KEEP whole literacy curriculum is helping students develop an understanding of key story elements. Based on the recommendations of curriculum developers and teacher consultants, four story elements are included in the constructed-response section of the assessment: (a) identification of traits or attributes of a major character which are important to the story line, (b) identification and explanation of a problem or goal of a major character, (c) identification and explanation of the problem resolution or goal importance for a major character, and (d) identification of the author's message or theme.

Connection-Application. After completing tasks related to story elements, each student is asked to describe a personal experience that is connected to the story and then relate ***how*** this personal experience is connected to the story. Students are then asked to provide an example of how they might apply what they have learned from the story to their own lives.

Word Meaning from Context. Another major KEEP instructional objective is that students be able to use contextual and other cues, such as word parts, to derive word meanings. Students are asked to define four words, two as short-answer items and two in the multiple-choice section of the test. The four words are selected based upon the supporting text available for students to derive word meaning and upon the judgments by teacher consultants that the words selected are unlikely to be included in the reading vocabularies of typical third graders.

Multiple-Choice Items. Items in a multiple-choice format are included for two reasons: (a) They provide an alternative response format for less capable writers, and (b) they provide an opportunity to observe students' ability to *recognize* desired responses, an easier task than *producing* equivalent responses. We expect that this section of the test will give an indication of skills that are emerging but may not yet be apparent in student-constructed responses to the short-answer test items.

There are three types of multiple-choice items: (a) story-element items which parallel the short-answer items and in which students' responses are judged along a continuum of concreteness-abstractness, with abstract responses given the highest number of points; (b) prediction or justification items, in which students may select as many of the response options as they think are appropriate to answer the questions; and (c) word meaning from context items, in which students select the definition they think best fits the story context. Here, responses that indicate partial understanding receive partial credit.

Reporting

A student's total score on the third-grade CRA is not a readily interpretable unit of information. It represents performance on a variety of domains, such as Story Elements and Word Meaning from Context, that are not necessarily hierarchical or highly correlated. To provide meaningful information, we need to analyze and report data by domain. We have decided to use a labeling metaphor to encourage a developmental interpretation of results. The symbols below (Figure 1) represent a continuum of growth toward the end-of-year goals: *not observed*, *emerging*, *developing*, and *maturing*.

Results

We compared the results of the subsample of students (N=272) who took the CRA and SAT8 in January ***and*** who also took the CRA in May. We discovered that the proportions of students in both the *developing*

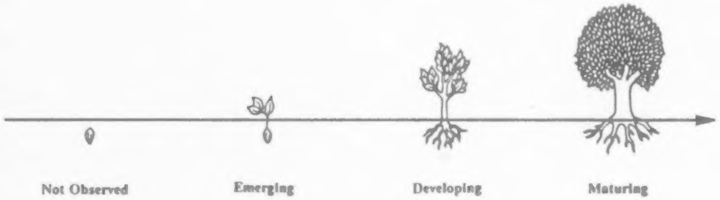

Figure 1. Growth continuum used for reporting students' progress toward end-of-year goals.

and *maturing* categories increased from January to May in four content domains, *Problem/Goal, Solution/ Goal Attainment, Author's Message*, and *Word Meaning from Context*. In some domains, as in Problem/Goal, the increase in both categories combined was very small, from 26% in January to 28% in May. In other domains, the increases were larger; the proportion of students identified as *developing* or *maturing* increased from 19% in January to 35% in May for Author's Message and rose from 24% to 39% for Word Meaning from Context.

Overall, students performed better on the multiple-choice questions. The proportion of students identified as *developing* or *maturing* on this section of the test stayed essentially the same, with 71% in January and 70% in May. But within this group, the proportion of students identified as *maturing* increased from 16% in January to 55% in May.

A teacher reviewing the results of the CRA at each administration would be able to see how her class is progressing on each domain. She can then use this information to make decisions about her instructional emphases and objectives.

Concurrent Validity

In order to address questions pertaining to the relationship between student performance on the CRA and performance on norm-referenced achievement tests, correlations were calculated between the SAT8 results, obtained in January, and the CRA results from the January and May fieldtests. The correlation between students' performance on the SAT8 reading comprehension subtest and their performance on the CRA's constructed-response, Story Elements section was .61 in January and .49 in May.

The correlation between these students' scores on the SAT8 subtest and their scores on the Word Meaning from Context section was .52 in January and .53 in May. These correlations were all significant at the .0001 level.

The correlations between students' CRA performance and teachers' judgments of students' reading levels were also significant, at the .0001 level, despite apparent variations among sites and among teachers in the standards used. These significant but moderate correlations on measures of concurrent validity suggest to us that the CRA provides valid and unique information about student achievement.

Reliability

The CRA has to be both reliable and valid in order for it to have utility. However, several features of the CRA have serious implications for its reliability and, consequently, for the validity of the inferences we can make about the results. For example, the time required for students to read a longer passage and respond to the constructed-response items severely limits the number of items which can be included in the assessment; if students do not demonstrate a skill within the test-taking time limit, there is no second chance for them to do so. When we aggregate test data for all third graders, or even a single class, this concern about reliability diminishes *if* our expectation for the group proves to be true—that errors in assessing the skills of individual students balance each other out. This, however, still leaves us with concerns about the reliability and the interpretation of scores for individual students.

The use of a different reading passage in each of the four forms of the CRA introduces another threat to reliability. Since we used passages from literature, as opposed to primers written to formulas, the texts are not of exactly equal difficulty. Although all the passages were determined to be of third grade readability, they vary along several dimensions, such as the quality of character development, the familiarity of settings and issues to the readers, the implicitness or explicitness of story elements, and so forth. Analysis of students' responses to the different stories showed that scores for some stories were higher than for others. However, these effects were not statistically significant. During the year of pilot and fieldtesting, passage selection criteria and review procedures were refined. We now know more about the desirable characteristics of passages and the factors that affect students' responses to passages. Thus, we should be able to reduce text effects in future versions of the CRA.

With the inclusion of constructed-response items in the CRA and our use of a qualitative scoring schema, agreement between scorers (inter-rater reliability) is also a source of concern. Where scorers worked together as a group to discuss and resolve difficult-to-score responses and ambiguities in the scoring schema, we obtained an inter-rater reliability coefficient of .81. Such conditions are not likely to exist in the future. When classroom teachers and consultants score on a regular basis, the reliability is expected to decrease. In response to this, we plan to re-score a sample of tests from each administration to use for purposes of evaluation, training, and identifying items for review.

Conclusions

It is our belief that the CRA will offer a unique piece of information about student performance. We believe that, as issues of validity and reliability are resolved, the CRA will be a more sensitive measure of KEEP student performance than the SAT or comparable packaged tests.

Our new instrument will help us address program evaluation questions regarding students' attainment of curricular objectives. KEEP curriculum developers and teacher trainers can also use CRA information to provide a basis for discussing expectations about instruction and student performance with teachers. This point is important because consistency in program implementation across sites has not yet been fully realized. The strong link between the assessment's procedures and content and the desired whole literacy classroom practices makes the CRA results particularly relevant for teachers as they make instructional decisions.

The collaboration among the Evaluation, Curriculum Development, and Training and Dissemination units has resulted in a successful integration of criterion-referenced test development theory, performance-based assessment methodology, and the whole literacy curriculum. Every fieldtest, with subsequent scoring sessions and analyses, has resulted in refinements to the measure which have greatly improved its clarity, objectivity, consistency, and validity. The current measure is very close to the desired end product.

Footnotes

[1] The research reported here is supported in part by the *Native Hawaiian Model Curriculum Implementation Project* funded under grant number S208A90001 from the U. S. Department of Education and administered by the Kamehameha Schools/Bishop Estate.

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Developing a Summative Measure of Whole Language Instruction: A Sonata in Risk-Taking[1]

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Chuck Giuli

> ***Sonata:*** *an extended composition for one or two instruments usually in three or four movements which are contrasted in rhythm and mood but related in tonality and which usually have an organic unity of sentiment and style.*[2]
>
> *Not all innovations will work. But without risk-taking and systematic evaluation of its results, innovation and improvement cannot flourish.*[3]

With the help of a federal grant, Kamehameha Schools/Bishop Estate (KS/BE) and the Hawaii State Department of Education (DOE) are collaborating on a five-year, in-depth evaluation of the Kamehameha Elementary Education Program (KEEP). The evaluation is to determine how instructional practices in schools participating in the study are related to student outcomes, particularly (a) achievement, (b) attitudes, including self-concept, and (c) classroom learning behaviors.

Commercially available instruments were selected to measure student achievement and student self-concept. However, because the KEEP curriculum is based on a whole language approach to language arts instruction and because proponents of this approach to literacy instruction do not accept standardized, multiple-choice measures as valid ways to assess instructional outcomes, supplementary measures were needed. Therefore, we hired outside experts to develop measures that would assess student learning in ways compatible with a whole language philosophy of language arts instruction.

In this article, I describe how these evaluation measures are being developed and make recommendations, privileged by hindsight, about managing such undertakings. After a brief summary of the overall evaluation plan, I discuss three phases involved in developing the supplementary measures: (a) identification and involvement of stakeholders, (b) selection and management of contracts, and (c) integration of the supplementary measures into the existing evaluation plan.

Overview of the Evaluation Plan

The evaluation is designed to assess cumulative effects of the KEEP instructional approach from kindergarten through fifth-grade. Four public schools using KEEP and four schools not using KEEP were matched for the ethnic composition, achievement, and economic background of their students. Three successive student cohorts will be assessed at the end of third grade: One cohort will have been in the study since first grade and two since kindergarten. The effects of KEEP will, moreover, be determined in fifth grade for the first cohort and in the fourth grade for the second cohort. An evaluator, external to KS/BE and to the DOE, has been contracted to conduct the evaluation, and a norm-referenced test has been selected to measure student achievement. The supplementary assessment measures, geared to outcomes of whole language instruction, are being developed by outside experts and will be used with the standardized achievement test to measure final outcomes.

Identifying and Involving Stakeholders

When evaluations are conducted, different groups of people usually have different concerns or "stakes" in the evaluation. Some are interested in how the evaluation is conducted, some are interested in how the evaluation turns out, and some are interested in what policies might result from the evaluation. Such groups of people, bound by an interest in the evaluation, are called stakeholding groups, or stakeholders for short. When stakeholders are included in the process of evaluation and improvement, educational change is easier and the results more permanent.[4]

Two kinds of stakeholders from KS/BE and the Hawaii DOE are interested in the KEEP evaluation: those concerned mostly with the implications of the study for *policy making* and those concerned mostly with how the *evaluation is conducted*. The stakeholders concerned about policy are the President and Trustees of KS/BE, the Superintendent of Schools, and the Board of Education. The stakeholders concerned about how the evaluation is conducted are the Director and the Curriculum Manager of KEEP, KEEP consultants, and participating KEEP teachers, as well as the Evaluation Branch of the DOE.

At the beginning of the grant, policymakers at both Kamehameha Schools and the Department of Education placed virtually exclusive emphasis on the norm-referenced test as the best measure of student reading achievement. Individuals closer to the classroom—in both the DOE and KS/BE—found norm-referenced achievement tests to be at best inadequate and at worst injurious for measuring program outcomes. They wanted a measure that would assess outcomes of instruction in "authentic" ways, using methods and materials more consistent with instructional context. Teachers, on the other hand, were concerned most about the amount of testing time supplementary measures would take. Those individuals concerned with conducting the evaluation (that is, the Evaluator, the DOE section and branch heads, and the Grant Director) wanted the alternative measures to yield a numerical score and to assess knowledge gained over a period of three or four years.

Therefore, we were challenged to honor these different, and sometimes disparate, interests of our

Grant Director, Chuck Giuli, updates KEEP site managers on the progress of the external evaluation.

stakeholders. As a start, we established an Advisory Group representing major communities of stakeholders. The policy and administrative levels of the State Department of Education were represented by the Assistant Superintendent, a member of the Office of Instructional Services, and two members of the Planning and Evaluation Branch. The policy and administrative levels of the Kamehameha Schools/Bishop Estate were represented by the director of the Early Education Division, the managers of KEEP's Training and Dissemination Unit and the Curriculum Development Unit, and myself, the director of the grant. Teachers and schools were represented by a principal of one of the schools using KEEP and by a district superintendent.

The Department of Education continued to participate in a number of other ways: The managers of both the Evaluation and Testing Sections of the DOE were members of the selection committee for the supplementary, alternative assessments; I was in continual contact with the Evaluation Section manager; the manager of the Testing Section was invited to attend work meetings with the assessment developers; and the developers reported their progress to DOE language arts specialists statewide.

Finally, in order to keep stakeholders up-to-date about the progress of the evaluation, the evaluator held periodic meetings at the participating schools and invited key personnel from Kamehameha Schools. Moreover, at intervals the evaluator circulated to all stakeholders a newsletter summarizing evaluation and assessment activities. Using these approaches, we kept the stakeholders informed and influential but not so informed as to contaminate the study.

Selecting and Managing the Contracts

The request for proposals (RFP) to develop an authentic measure of the effects of whole language instruction was framed within three constraints: (a) The measure should not be perceived by teachers to cause a large testing burden, (b) the measure should be summative in nature; that is, it should provide an index of cumulative program effects on achievement, and (c) the measure should be sensitive to important effects of whole language instruction. Therefore, the potential contractors were asked to propose a measure that could be administered in one class period, that would include innovative assessment procedures, such as portfolios of student work, and that would yield a numerical score of student achievement.

The responses to our request for proposals complemented each other: a weakness in one proposal was offset by a corresponding strength in another. The selection committee, therefore, decided to issue three contracts, each covering an important facet of whole language outcomes: (a) One contract was awarded for assessing student knowledge in language art, (b) another was issued for developing measures to assess students' habits of literacy and attitudes about reading, and (c) the last contract was awarded for developing a portfolio assessment system.

The proposals we received were not clear on how a measure that was both quantitative and authentic might look. It became apparent, then, that too narrow a focus in the early stages of development might miss the target and that a more relaxed approach might be more likely to lead to pay dirt. Therefore, we used a light rein to manage the projects in the beginning. Only as exploration by the developers led to a clearer focus of the target and ways to reach it, did we direct our attention to more traditional test development activities, such as pilot testing, checking reliability, and writing test administration manuals. Imagining time moving from left to right, our strategy can be depicted as follows:

Begin Project < Explore Focus > Deliver Instruments

We used the following approach to manage the exploration phase of the project:

1. *Obtain as much variation as possible in measurement approaches by having the contractors work independently of one another.* The more approaches we had initially, the more likely our success eventually.

2. *Give developers as much latitude in their development work as possible.* For instance, provide a general description of the measurement domain (e.g., *student affect*), but give developers a free hand in determining how this domain should be measured.

3. *Do not limit in advance the cost of either administering or scoring the measures.* For example, we discouraged neither one-on-one test administration nor the use of experts to score student responses. Our primary intention was to obtain as powerful an assessment of whole language outcomes as possible and then to winnow these measures, if necessary, to meet budget restrictions.

4. *Do not worry if all measures don't make the final cut.* Even if they are not used in the evaluation, most of the measures developed will probably be useful to teachers.

5. *Involve stakeholders in developing the measures.* There are so many twists and turns in open-ended development work like this that stakeholders will be lost unless they are involved from beginning to end.

There were anticipated dangers with this *let-a-thousand-flowers-bloom* approach. When would the exploration phase have served its purpose and when should we converge on a final product? Rather than leading to a field of beautiful flowers from which we might produce a lovely bouquet, would the expansion phase lead us to a field of dreams instead?

An Illustration of the Development Process

One of the three contracts was issued for the development of a portfolio system to measure the outcomes of language arts instruction. A brief description of this project illustrates the fluid nature of all three assessment projects.

Five experts in the field of whole language instruction met for three days with curriculum representatives from the State Department of Education and Kamehameha Schools in order to devise a method for incorporating student work portfolios into the evaluation. The experts defined portfolio systems as ongoing collections of student work over which teachers and students interacted. However, since it was unlikely that control classrooms had such systems in place, and since the full implementation of portfolio systems in KEEP classrooms was not yet widespread, using portfolio systems would have altered normal instructional practice too much.

The experts agreed that, instead of portfolios, samples of everyday student work, collected twice during the year, could indicate how student abilities developed over time. Student growth—an important aspect of learning—would not otherwise be measured by the evaluation. These work samples would be supplemented by interviews with students about their work and with classroom observations to determine how the social context of learning influences student work. The experts identified measurement dimensions for scoring the work samples, the interviews, and the classroom context.

The original contract for the project ended, however, before the work was completed. The contract was extended. As they continued their work, the experts decided to incorporate in their measure an assessment of student collaborative learning structures, an instructional feature of whole language classrooms which is used to facilitate learning and is valued in its own right. Although this new emphasis would probably increase the power of the assessment, including it at this late stage of development created ambiguity and stress. Would this new direction be fruitful? Was there time to bring the effort to a close? It became clear that the responsibility for completion of the project was, ultimately, the grant director's, not that of the assessment developers nor of other stakeholders. But, was this the time to tighten the reins?

All three projects to develop supplementary measures were, like this one, full of change and surprise. In this particular case, what started as a portfolio measure became a measure of student growth, which, in turn, became a measure of the community of learners. Some challenges encountered are still formidable such as quantifying certain kinds of data to be collected and distinguishing between *learning context* and *program outcome* (for instance, the *community of learners* is both).

Integration of New Measures with Evaluation

With the approval of the evaluator, we had, at first, let development efforts for the supplementary assessment measures move independently of evaluation constraints. This freedom, however, carried risks: The measures developed might be too time-consuming or too costly to administer, or they might not fit the design of the evaluation.

Just such a problem has, in fact, materialized. At the outset, the evaluator obtained agreement from principals and teachers about the nature and duration of testing for the evaluation. The alternative measure originally envisioned by the evaluator, however, was not at all like the assessment package now being developed. The original, one-class-period assessment of reading comprehension has become a multi-day assessment of language arts outcomes. The intention to use student portfolios has metamorphosed into an effort to capture the context and behaviors of classroom learning using work samples, interviews, and observations. The measure of student affect—for which a commercial measure of self-concept was originally chosen—now measures student attitudes, habits of literacy, and cognitive strategies.

We are currently considering how to include these new measures of comprehension, affect, and student work in the evaluation. Although the measures under development appear at first glance to be more time-consuming than originally planned, under closer scrutiny, they are compatible with classroom instruction and can often be imbedded within it. Since these new measures are compatible with instruction, our thinking about them as "tests" is changing; because they augment rather than supplant instruction, most can probably be included in the evaluation without placing an undue testing burden on teachers or students.

What We Learned

Developing these measures was like taking a voyage to a new world: We weren't sure where we were going, even less sure about how to get there; much of what we encountered was unique and novel; excitement of discovery and concern about possible mistakes were constant companions. The following points summarize important features of our journey.

1. There was no model of learning for whole language to guide us, and possibly as a result, we were not always able to distinguish clearly the *outcomes* of learning and the *process* of learning.

2. The eighteen months from issuance of RFP to product completion was adequate for developing first generation measures, but not for developing polished products.

3. The challenge to the developers to create innovative measures and the free-hand granted for doing so stimulated excitement, enthusiasm, and interest among participants. Their zeal for the mission helped temper our concern for completion.

4. The developers had latitude in managing their projects, but ultimately the responsibility for pulling it all together was the grant director's.

5. The support of the stakeholders was essential to the success of this project. It was important that stakeholders interested in the evaluation —in this case, decision makers and teachers at both KS/BE and DOE —were continually brought up-to-date about the progress of the work.

6. Our knowledge about the supplementary measures grew as work progressed. We were continually revising our plans as new information emerged. The entire process of development involved continual change and demanded flexibility.

During the course of the project, a noteworthy evolution occurred in the attitudes of decision makers toward the alternative assessment. At the beginning, decision makers saw ready-made, standardized, multiple-choice tests as the best way to evaluate program outcomes and gave the alternative assessment little support. During the ensuing two years, however, decision makers began to see the necessity for different ways of measuring student achievement. Currently, all stakeholders in the evaluation, from teachers to upper management, are keenly interested —at times even enthusiastic— about innovative ways of measuring student learning and attitude. We believe this happened because stakeholders participated in decision making, the enthusiasm of the test developers was contagious, and there were parallel movements in the national education community toward an acceptance of new measures of educational outcomes. Had this evolution in thinking among the community of decision makers not occurred, the reception given the measures developed might not have been so warm nor the tolerance for ambiguity created by the project so high.

Recommendations to Others

For those who, on the one hand, have to meet the needs of decision makers for program accountability and, on the other hand, have to meet mounting demands for relevant, authentic testing in education, I make the following suggestions:

1. *Be clear about who has a stake in the developmental process, identify this stake, and include these stakeholders by soliciting their comments and keeping them informed about progress.*

2. *Be prepared to encounter substantial ambiguity.* Because these measures are innovative, their development requires substantial amounts of exploration. Exploration requires trial and error, and trial and error is risky.

3. *Be sure to narrow the initially broad focus in time to produce a serviceable final product.* If you give too much latitude, then time, money, and commitment may not be sufficient to shape a final useable product; if you constrict the focus too soon, then you may force a final product not suited for the job. Project management should be flexible without being flaccid.

Conclusion

Were I to do the project over, I would make one significant change.

After an initial period of unencumbered, independent exploration of their separate topic areas, I would bring together more frequently the evaluator and all developers of the supplementary measures. This would bring participants together as a community of learners—to borrow a concept from whole language instruction—and update their understanding of the project and its link to the eventual evaluation. Developing a consensus about the purpose and direction would help overcome the repeated blurring of the target that has occurred for all of us during the project. In hindsight, the clarity of purpose arising from periodic reconstruction of participant knowledge seems at least as important for reaching the goal in this kind of project as is the proliferation of approaches intended to result from the quarantining of developers.

At the time of the publication of this article, not all assessment efforts have been completed and none have been used in the evaluation. Thus, we can draw no conclusions about the adequacy of the final products. The stakeholders believe, however, that the grant has already contributed toward an understanding of the shape new forms of measurement might take and how these measures might, therefore, be developed. Future efforts to produce innovative measures of program outcomes—more authentically representing instruction and therefore more compatible with it—may rest on surer footing.

Footnotes

[1] The research reported here is supported in part by the *Native Hawaiian Model Curriculum Implementation Project* funded under grant number S208A90001 from the U. S. Department of Education and administered by the Kamehameha Schools/Bishop Estate.

[2] *Webster's Third New International Dictionary (Unabridged)*. (1981).

[3] Light, R. J., Singer, J. D., & Willett, J. B. (1990). *By design: Planning research on higher education*. Cambridge, MA: Harvard, p. ix.

[4] Fullan, M. (1991). *The new meaning of educational change*. New York, NY: Teacher's College Press. See also, Huberman, A. M. & Miles, M. B. (1984). *Innovation up close*. New York, NY: Plenum.

Beyond Standardized Assessment

Herman Aizawa

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For many years in education, there has been the need to report levels of student achievement. For too long, however, we have depended solely upon straight, standardized, norm-referenced testing—testing in which our students are compared to a group of individuals selected to represent the student population nationwide. The performance of this selected group has been the standard by which we judge our students' achievement. We are coming to realize that there should be a variety of approaches to measure a student's progress.

We need to look at multiple assessments—at criterion-referenced tests and alternative, authentic, or holistic assessments. This is important because we are talking about assessing people. People have a variety of talents, and we should have a system that recognizes this range of talents. The norm-referenced tests we are using may not be testing the particular talents of a child, and there may be unhappy emotional consequences. Doing poorly on a standardized test, a child may think, "Maybe I'm not worthwhile because I can't do well on this thing that everybody says is so important." But this same child may be doing exceptionally well in other areas, such as speaking in front of a class—an ability that society values, but one that a norm-referenced test does not assess.

There are many things teachers can do to describe how their students are progressing—portfolios and related materials, observations, anecdotal information, and information from other classroom instruments that chart the progress of a child's writing, reading, speaking, computing, and thinking. All this teacher information, together with criterion- and norm-referenced test information, will help us to say, "This is how the student is progressing." We in the educational system need to inform people how successful we are in what we are doing; but to base the evaluation of our efforts only on the results of norm-referenced tests is to shortchange both our professionals and our students.

To institute a multiple assessment system may sound like a simple task. But people who are trying to develop authentic assessment approaches are finding it difficult and time-consuming. A lot more research is needed. Authentic assessment is in its crib stage; it hasn't even learned to walk. The collaborative project between the Department of Education (DOE) and Kamehameha Schools to evaluate KEEP—the Native Hawaiian Model Curriculum Implementation Project (funded federally under Grant No. S208A90001)—is spearheading the development of authentic, alternative assessment measures in Hawaii. (See Giuli, this issue.) The Advisory Group of this project has members from the DOE and Kamehameha Schools to ensure that the results will be useful for everybody.

We have to re-educate our people. For too long, we have encouraged confidence in norm-referenced tests. It is easy to understand why this confidence has developed. Look at the way results are reported: Your performance on the test gets a number from 1 through 9; if you are in stanine 1, 2, or 3, you are below average; if you are in stanine 4, 5, or 6, you are average; and if you are in 7, 8, or 9, you are in the upper level.

Everybody wants to be above average or at least average, but the norm-referenced tests automatically force students into one of the three categories. So the state educational system can never have the successful outcome of having all its students perform at the average level or above. The test simply doesn't allow that. Multiple assessments will give us the capability to demonstrate more effectively how well we are doing because they focus upon a wider range of performances than do our standardized tests. There is no question that we need to help students develop the skills tested on norm-referenced tests. The issue, however, is that people have become so accustomed to seeing such tests used as the only way to measure achievements that we now have to make a genuine effort to educate our community about the limits of norm-referenced tests and the need for multiple assessments.

We now have a charge from the legislature to discuss and identify performance standards for our students. The determination of performance standards will depend upon what our community expects of its schools. We know some basic things will be included in these performance standards. Can you speak well? Can you read well? Can you add, subtract, multiply, and divide? We need to try to identify by grade level what kind of standards we expect of our students. This must be coupled with the strong belief that every single student can learn. Some students may require different instructional strategies; some may need more time to reach our standards. That means, if the student needs to be taught with different strategies, he should be given those; if the student needs more time, he should be given that time; if we need to have a variety of class sizes, we should have that.

A further push for the adoption of authentic assessment in our public schools comes from the whole language philosophy. To be a whole language teacher, you need to have a philosophy that professes that all students can learn and that they learn in multiple ways. And, if children learn in multiple ways, then you need to have multiple ways of assessing what they know. To me, multiple assessment, authentic assessment, has to be integrated into the teaching-learning process.

In addition to creating better assessment of our students' overall achievements, the alternative and multiple assessment movement has two other positive spinoffs. First, the philosophy of authentic assessment encourages us to talk about teaching in different ways; it says that our instructional staff should have at their fingertips these strategies to help all the Keokis, Marys, and Joes. With authentic assessment, we may have scientific and technical tools to improve teaching. Such tools will help us guide individual students by giving us more feedback about each student's strengths and weaknesses and progress.

Another benefit of multiple assessment is that it emphasizes the involvement of all members of the educational community. The teacher, the student, the rest of the faculty, the administration, the parents, and the community—all need to be involved when we look at how we are going to assess student performances in a variety of ways. But if all these individuals participate in determining the form assessment will take, then should they not also ask themselves, "Who should help in the development of these performances; that is, who should help in the education of our children?" School Community Based Management reflects a community-centered approach to education. The Advisory Group for the development of alternative measures to evaluate KEEP, as mentioned earlier, represents a collaborative effort among institutions dedicated to the education of Hawaii's youth.

When I taught at Kailua High School, I tried to present information to the students in such a way that they would challenge me and say, "But, what if we did it this other way . . ." I just loved it when they said that, and I still try to do that in my present role. I love it when someone says, "But take a look at what we've been doing. If we did it in a different way, wouldn't it address our needs better?" That is the challenge for us all!

We can do assessment better. Instruction and assessment must be integrated, and we must go beyond using the single, norm-referenced test to be the only and final assessment of the various talents of our students. Multiple, alternative, authentic, or holistic assessment is an educational imperative if we are to do right by our students and professionals.

Authentic Assessment of Elementary Literacy: A Question of Realities

Robert C. Calfee

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Fifty years ago, the topic for this journal issue would appear straightforward to audiences professional and practical! Authentic assessment —real testing of student achievement—was the teacher's responsibility. The process was not perfect, and policymakers of that time worried about bias, reliability, and validity, issues that have all stood the test of time. Students might be underrated because of their race or sex. Grades might reflect conformity more than achievement. With the appearance a half-century ago of the technology of standardized tests, experts announced that all of these problems were resolved. The goal of effective and efficient measurement of educational achievement had been attained; subjective teacher judgment was a thing of the past. The machinery of standardized tests became solidly entrenched.

During the past few years, an urgent cry has arisen calling for *authentic assessment*, for exhibitions, portfolios, and performances. The "tyranny of testing" has been challenged many times in the past; what is new about the present hullabaloo? I think that the situation today is significantly different from ten years ago, largely because of developments in two dimensions of educational assessment—*why* and *how* to test student achievement.

I think that several trends are leading toward a more equitable balance in the control of schooling.

"Legislative learning" has been in the saddle for half a century, with teachers following dictates from on high. Challenges confronting schools in the foreseeable future require a sensitivity and responsiveness in the classroom that can only be realized by a *professional* approach. These changes call for informed judgments by teachers in all areas, including assessment. This note builds on several previous papers, and I refer the reader to citations in these sources: Calfee,[1] Haertel & Calfee,[2] Hiebert & Calfee,[3] and Calfee & Hiebert.[4] My remarks are directed toward elementary and middle school education.

Locus of Control in Assessment

In the United States, debate about the regulation of schooling can be summed up in the contrast between *external* and *internal* assessment policies. Administrative pressures for accountability by principals, school boards, state superintendents and governors, and federal agencies have led to the development and implementation of externally-mandated, assessment systems that address certain problems in certain ways:

- *Origins*: Development and validation of assessment methods by a central agency responsible to a top-level policymaker.
- *Methods*: Adherence to standardized procedures and routinized administration; professional judgment is neither needed nor allowed.
- *Outcomes*: Cost-effective (i.e., cheap) methods yielding simple numbers that either pass or fail a set criterion.

Advocates of authentic assessment have challenged each of these facets of external policy control by proposing internal assessment approaches with quite different characteristics:

- *Origins*: Development and validation of methods by a professional community of teachers directly responsible to themselves and their clientele.
- *Methods*: Reliance on procedures springing from a shared understanding of curriculum and instruction, procedures that are adapted according to situational context.
- *Outcomes*: Case-effective (i.e., expensive) methods requiring informed judgment and yielding complex "portraits."

Depending on conditions and resources, either of these endpoints (and many combinations between) may make sense. If the aim of an educational system is to select an elite for special advancement, and if assessment costs are to be minimized, then standardized approaches are appropriate. When educational needs are great and resources scanty, when professionals are scarce and yes-no decisions critical, standardized routines again have an advantage; on battlefields or in natural disasters, triage may be the only option. Judging the outcome of the 100-yard dash does not require a panel of judges; an accurate timer serves quite well.

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On the other hand, a school system that seeks to realize the potential of every student, whether for reasons of equity or economics, is well advised to invest more heavily in assessment incorporating informed, professional judgment. If, rather than viewing the classroom as a battlefield staffed by paraprofessionals, we envision a community of inquiring professionals, then the need for triage is less pressing. Diving and figure-skating events demonstrate the feasibility of reliable assessment of complex and creative performances by panel judgments.

In short, the controversies surrounding authentic assessment are part of a broader societal debate about the purpose of schooling and the ways in which schooling is to be managed. Each example sketched above engages questions about the *why* and *how* of assessment. In an *externally-mandated* system of control, the chief purpose of assessment is to assure the central policymakers that the output of the educational system is meeting expectations. The main considerations in this model are economy and exactness; the costs of assessment (like all costs) must be kept low and the decision process must be simple and easy to justify to the public. For an *internally-mandated* system of control, in contrast, the main purpose of assessment is to ensure that the local practitioner has the information needed to serve clients. Most professionals have "paying customers," and so effective assessment is critical.

What is the Problem?

Standardized tests and informal classroom assessments seem to have kept a tolerable truce for some decades. Why the current cries for a change? If it ain't broke, don't fix it—so what's broke? Let me suggest three problem areas and associated remedies.

One argument holds that *standardized tests lack authenticity*; in the language of psychometrics, they lack generalizable validity. The mismatch between multiple-choice tasks performed in sterilized contexts versus the real achievements that they purport to measure renders these instruments virtually worthless. Statistical machinery may suggest that these instruments are measuring something, but this "thing" bears no obvious relation to genuine educational outcomes. So goes an argument expressed since the early days of standardized tests. The chief remedy is to *eliminate such instruments.* Nature abhors a vacuum, however, and even the most vigorous debate has had little impact.

Major reformations in curriculum and instruction provide the context for the next argument. For the past several decades, basal textbooks relieved the teacher of the need or opportunity to decide what to teach or how to teach it. These materials spelled out the full scope and sequence of reading and math for virtually the first ten years of every student's schooling, down to the level of the questions to be asked and the answers to be demanded. The appearance of movements like whole language and experiential math programs prompted a return to teacher control of curriculum. These movements are at the crux of the second problem: the *inappropriateness of standardized methods for evaluating nonstandardized curriculum and instruction*. When students learn in situations that highlight a sense of purpose, promote collaboration and teamwork, and emphasize large-scale projects requiring substantial amounts of time and entailing uncertain outcomes, why should anyone expect transfer of knowledge and skill to a testing context that lacks obvious purpose, prohibits teamwork, limits time, and defines the "right answer"?

Educators across the spectrum have responded to this mismatch, calling for a remedy in the form of *alternative assessments*. The multifaceted aspects of this movement go beyond the scope of this commentary, although they fit features listed earlier under the rubric of internal assessment. Writing exercises are preferable to "fill-in-the-blanks"; portfolios and exhibitions are popular concepts; process is a key term for both reading and math ("Show your work" has returned). Many advocates propose teacher inquiry as the foundation for alternative assessment, and school districts and state education departments have followed this lead as has the National Assessment of Educational Progress (NAEP).

A third argument holds that *the system is out of balance*. Rather than discarding present approaches, the recommendations here are to (a) enhance the quality of large-scale, externally-mandated approaches and (b) improve the technical qualities of teacher evaluation of student achievement. Corresponding remedies are (a) *large-scale assessment that clearly meshes with the best existing concepts about classroom curriculum and instruction* and (b) *summary outcomes of teacher judgments that can be aggregated for reporting to higher levels of the accountability system*. That is, we need to build a bridge between the protagonists in this drama (see Hiebert, Giuli, Aizawa, this issue).

Several efforts are ongoing to improve the authenticity of large-scale assessments. Writing assessments in California, South Carolina, Texas, and several other states have engaged classroom teachers in the design, implementation, and evaluation of student achievement. In the Los Angeles Unified School District, for example, an experimental writing-to-source assessment leads the class through the stages of the writing process over a period of several days with instructional support. Variations on this theme exist elsewhere: Vermont teachers are exploring the development of portfolios for state-mandated assessment; NAEP has a pilot project underway as part of the development of a national test.

Despite the promise in these activities, a problem looms in the background. Externally-mandated efforts at alternative assessment, even those that solicit teacher input earnestly and honestly, will sooner or later succumb to bureaucratic standardization. Maintaining the tension between classroom pragmatics and policy-level impositions is critical to sustaining authenticity. Practically speaking, performance assessments can easily become routine and decontextualized when the teacher's energy is siphoned off by competing demands.[5] The resolution to this dilemma, in my opinion, requires a complementary effort at professionalization. If teachers are to have a voice in the accountability enterprise, they must establish a more secure professional base. Professionals know something that others cannot claim. Psychometricians, those who keep the Holy Grail of standardized testing, know about alpha coefficients and latent trait theory; they speak a language that is mysterious to others. For teachers to become members of the assessment team, they must demonstrate a technical expertise of equal power and (one hopes) greater persuasiveness.

What elements might provide a technical core for the teaching profession, for those who deal daily with young children and adolescents? Three themes seem central to this core: (a) *education as curriculum and instruction*, (b) *child development and learning*, and (c) *collegiality* exemplified by the school as a community of inquiry. The notion of the teacher as a practical researcher cuts across these elements and places assessment at the center of the enterprise. The inquiring teacher views teaching as an experimental activity, requiring generation of hypotheses, variation in conditions, collection of data, and interpretation of findings. Like other researchers, the inquiring teacher operates publicly, through activities that can be described objectively, that others in the educational community can understand and replicate.

All complex systems are interconnected and depend on systematic feedback among the various elements. Authentic assessment of student achievement has become crucial to realizing the Jeffersonian vision of a fully educated citizenry. Current techniques, to the degree that they rely on an externally-mandated methodology disconnected from classroom realities, are not working. Alternatives that fail to address the needs of program evaluation and system accountability and that lack technical rigor are not viable in the long run. The basis for a workable and balanced assessment system lies in realizing the potential of classroom teachers to render informed professional judgment of student achievement that can be communicated to the broader public. This goal may appear a difficult attainment, but consider two points. First, complex assessments appear regularly in arenas like figure skating and diving, and so ordinary people can perform the task. Second, classroom teachers throughout the country make decisions every day that influence the well-being of students. In order to trust the judgments of classroom teachers, we must ensure that these judgments are of the highest quality. The truth is, we must trust these judgments.

Footnotes

[1] Calfee, R. C. (in press). Authentic assessment of reading and writing in the elementary classroom. In M. J. Dreher & W. H. Slater (Eds.), *Research for improving reading/language arts education in the 1990s.*

[2] Haertel, E., & Calfee, R. C. (1983). School achievement. Thinking about what to test. *Journal of Educational Measurement, 20,* 119-132.

[3] Hiebert, F., & Calfee, R. C. (in press). Assessment for instructional decision-making. In A.E. Farstrup & S.J. Samuels (Eds.), *What research has to say to the reading teacher*. Newark, DE: IRA.

[4] Calfee, R. C., & Hiebert, E. H. (1990). Classroom assessment of reading. In R. Barr, M. Kamil, P. Mosenthal, & P.D. Pearson (Eds.), *Handbook of research on reading,* (2nd ed.). New York: Longman Publishers.

[5] Hiebert & Calfee, *op. cit.*, see footnote 3.

Authentic Assessment: Bridging the Gap

Elfrieda H. Hiebert

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As the effects of narrowly-defined tests on curriculum become apparent, different ways of assessing literacy are explored. Many groups engage in this discussion, among them teachers, policymakers, curriculum specialists, and measurement experts. All talk about authentic assessment. While using similar labels, the visions and interpretations of authentic assessment held by different groups may vary substantially. Curriculum specialists and teachers gather information to improve instruction. Portfolios which contain student work samples and records of conferences over a period of time serve this function well. Measurement experts investigate how to improve the large-scale assessments used by policymakers. To date, these efforts have consisted of revising tests.

The conversation may have shifted from multiple-choice tests to authentic assessments but, if curriculum specialists and measurement experts do not interact, authentic assessment may fail to produce the dramatic shift needed for changes in students' literacy experiences. For such a shift to occur, both groups need to talk to one another. While some functions of assessment may be unique to one group or the other, some assessments can overlap between the two groups. An illustration of the contribution to the common cause of alternative assessment follows.

Classrooms provide numerous contexts for literacy use. The ability to structure and restructure interpretations of text in verbal exchange is a mark of a literate individual—and one that is hard to come by on any paper-and-pencil assessment. But teachers have access to student progress in this domain daily. They also view student progress over a wide range of contexts, such as reading narrative versus expository text, writing a persuasive essay after reading several editorials, or reading avidly because of an interest in learning about something. Teachers can document information about their students' higher-level literacies evident in oral exchange, in extended writing, and across many other contexts.

All of the portfolios from all classes in a state cannot be shipped off to the legislature. However, policymakers could benefit greatly from summaries of some portions of these portfolios. Artifacts from classroom life, such as books students have published or literature logs in which students record their readings and their responses to these readings, provide insights into literacy proficiencies that everyone values but which are seldom captured in current tests. *Without such insights, the trivial dimensions of literacy may be emphasized and the goals that are truly esteemed may be overlooked.*

A recent analysis of students in a district with "high stakes" on standardized test results confirmed this pattern.[1] An emphasis on standardized tests had produced a situation where, while students scored well on the district-administered test, most were unable to write one or two sentences about passages they had read. Had information from a range of classroom contexts such as compositions and literature response logs been included in district assessments, educators and parents would have been aware of students' weaknesses in writing and the curriculum could have been adjusted.

Measurement experts also have a critical role in changing the face of assessment. As was illustrated in the analysis of students' literacy problems,[2] the demonstration of deficiencies in the standardized test curriculum depended upon a viable alternative test. Even with greater integration of information from classrooms, districts, states, and federal agencies will continue to ask for large-scale assessments. The uses of these tests need to be modified drastically (see the Resolution on Assessment, International Reading Association, 1991).[3] At the same time, test content needs to be modified to reflect critical literacy goals in the best possible manner. Measurement experts have a critical role in creating tests that measure valued literacy goals.

Several states, among them Arizona, Illinois, Maine, Massachusetts, and Michigan, have shown that large-scale assessments can be much more authentic than they have been in the past. Some sub-tests that measure lower-level skills, such as word analysis, have been eliminated. Longer passages from real contexts, like magazines and collections of short stories, have replaced the short paragraphs that have often been found on standardized tests and nowhere else. Low-level questions have been eliminated or given less weight, and questions that deal with the substance of passages have been emphasized. In some cases, open-ended responses have been included: Such responses can be scored reliably and, if these comprise a portion of the test, without exorbitant costs.

Many are hopeful that the authentic assessment movement will assist in furthering development of the higher literacies[4] among American students. Such a goal is an ambitious one. No single assessment will capture the higher-level literacies. Different kinds of information from daily classroom life are necessary to provide insights about students' abilities to read, speak, listen, and write across a range of texts and contexts. More authentic, large-scale tests also have a role to play in focusing attention on the higher-level literacies. Combined with portfolios and writing samples, they inform policymakers as to general patterns of progress. At the same time, teachers can use information from these large-scale assessments as a further source of data about their students' development as literate individuals.

Footnotes

[1] Hiebert E. H. - (1991, April). *Comparison of student reading performance on standardized and alternative tests in high-stakes contexts.* Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

[2] Hiebert. *op. cit.,* see footnote 1.

[3] International Reading Association (1991). Resolution on "Improving the effectiveness of assessment procedures and measures." Las Vegas, NV: Author.

[4] Brown, R. (1989). Testing and thoughtfulness. *Educational Leadership, 46,* 31-33.

Comments on Assessment and Accountability

Kellet Min

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There was a revolution far, far away from here. The victors granted three persons their final wishes. The parent requested to give her child a good-bye kiss. The Director of Planning and Evaluation requested to make some comments on assessment and accountability. The teacher requested to be shot before the Director made his comments. I am appreciative of this opportunity to discuss briefly assessment and accountability.

Recently, there has been growing concern about the ways in which students are assessed. More specifically, there has been the criticism that standardized, multiple-choice tests 1) cede inappropriate power to test developers, 2) do not match what is taught in the classrooms, 3) suffer from time and scoring constraints, and 4) are often misinterpreted. Most responsible educators would agree that standardized tests have shortcomings. What is regrettable is that many critics do not acknowledge that, used properly, standardized tests serve important objectives. Indeed, in their zeal to improve student assessments, they often unfairly contrast the shortcomings of standardized tests with the "potential" advantages of authentic assessments (this is akin to comparing penguins and alligators on different characteristics); they then advocate eliminating the use of standardized tests.

Although most educators agree on the need for increased use of authentic assessments, they would probably not agree on the perfect assessment system. One reason for disagreement stems from legitimate differences of opinion. Others are due to the different emphases given to the multiple objectives of assessment. Some of these objectives are to 1) determine students' strengths and weaknesses with the purpose of improving learning, 2) assist teachers to improve and individualize teaching, 3) improve curriculum, 4) evaluate programs, 5) certify students, and 6) determine accountability. Achieving these objectives calls for the use of various assessment methods: standardized tests, local criterion-referenced tests, and other performance assessments such as portfolios and demonstrations.

The problems are that our knowledge is limited, our techniques are still in a fledgling stage, and our resources are inadequate. For example, summarizing portfolios and science performance assessments on a statewide basis is a difficult endeavor. It would require agreement among key persons on such questions as the following: What concepts or skills will be assessed to provide a sufficient representation of an area of study? How will standards be set? How will teachers be trained to provide fair and reliable judgments of students' work? Who will summarize and analyze the data? How much will the assessments cost? When will such assessments be ready for use? However, in spite of the complexities that surely will be encountered, school systems must endeavor to develop authentic assessments. The aims of an *assessment system* include blending different objectives and methodologies into a coherent whole, taking advantage of the best features of each methodology, minimizing disadvantages, and staying within available resources.

Let me make a few comments about accountability. In the not-too-distant past, educators talked to policymakers and to the public in the same way some boys talked to girls. We said, "Trust us. Go all the way with us. Everything will be all right." What happened? Nine months later, we were in trouble. Student outcomes did not improve. So, policymakers and the public now demand accountability. Accountability means providing evidence of the degree to which we accomplish what we promised we would do. Accountability, then, includes an assessment of a student's learning because schools are charged with the instruction of each student. However, it is important to note that the concept of accountability also extends to our entire educational system. It involves providing the Superintendent, the Board of Education, the Legislature, the Governor, and the public with information on 1) each school's efforts and successes toward improving itself, 2) the school system's progress or lack of it, 3) the school system's performance relative to the rest of the nation, and 4) data analyses and recommendations that enable policymakers to improve the educational system.

Accomplishing these objectives means collecting and analyzing a wide assortment of data. A major problem, however, is obtaining accurate data. Despite the fact that accountability data appear to be a bunch of numbers running around looking for an argument, it is necessary to work with what is available and to improve the data as we go along. Accountability data can be classified into three categories. First, context data reflect variables over which a school or the educational system has little control; they include the number and percent of students who receive free lunch and the number and percent of students who are limited English speakers. Second, process data reflect efforts and processes that a school and the educational system *can* control; they include programs, policies, and use of resources. Third, outcome data include student achievement, attendance, graduation rates, suspensions for minor and major offenses, and commendations for excellence. Performed correctly, analyses of the relationships among context, process, and outcome data help us determine the degree to which we are doing what the school system is charged to do.

Finding the perfect assessment and accountability system requires great optimism. It is like looking into a dark room for a black cat that isn't there. The Board of Education, the Governor, the Legislature, and the public look too. But they claim to see the cat. So, we will continue to look also.

Authentic Assessment

Scott G. Paris

Scott Paris is Professor of Psychology and Education at the University of Michigan and has studied children's memory, learning, and reading during the past 20 years. He has worked with KEEP staff on several occasions during the past six years. His current research is on portfolio assessment of children's strategic reading, metacognition, and motivation.

In this brief, personal perspective, I would like to sketch the answers to three important questions about authentic assessment of literacy. First, "Why is a new approach to assessment needed?" During the past ten years, there has been growing discontent with traditional assessments of academic achievement from all participants. Standardized, paper-and-pencil tests comprised of multiple-choice questions given in a time-constrained fashion are relatively quick and economical to administer and score, but the results are not very useful. Because standardized tests cover only a small part of the curriculum in any classroom, they assess narrow skills and content that are amenable to multiple-choice formats. Teachers seldom use the test results to diagnose the talents and weaknesses of individual students or to revise their curriculum and instruction. (And if they did reorganize their curricula to fit the test, critics would argue that they were teaching to the test.) Parents rarely understand the test or use the results to promote learning at home. Instead, the scores are often misinterpreted by parents to confirm their satisfaction or dissatisfaction with their children's progress.

Our research indicates that traditional achievement tests often have a cumulative and negative impact on many students, especially those who score poorly on them. Young students believe that standardized tests are accurate measures of their knowledge and they try hard to do well but, by 11-12 years of age, many children become skeptical and cynical about the validity of the tests. These students often try halfheartedly, cheat, or fill in the answers mindlessly as a self-protective tactic for avoiding responsibility for their scores. Thus, traditional, high-stakes, achievement testing can adversely affect learning and instruction for many participants.

Authentic assessment has generated considerable enthusiasm because the measures of students' achievement are not as limited and narrow as traditional testing. Students' performance in the classroom and the work that they produce become the basis for assessing their accomplishments and skills. Authentic assessment is an extension of teachers' continual evaluation of students' learning. It reaffirms the wisdom of teachers' judgments about individual students and places responsibility and control for measuring learning in the hands of the teacher. It is part of the curriculum and intertwined with instruction just as a sports coach continuously assesses progress, encourages effort, and provides advice.

"What are the key features of authentic assessment?" There are many important characteristics of new approaches to assessment but I'll mention four that seem most relevant to me. First, *authentic assessment practices have instructional and curricular validity.* This means that teachers are the primary assessors in the classroom and that what they choose to measure reflects what they value in the content of their curriculum and the methods of their instruction. For example, if the curricular goals include the development of strategic reading, the promotion of recreational reading, and feelings of confidence, then teachers ought to measure these dimensions of students' achievements. Or if their instructional practices emphasize collaborative writing, note-taking, and graphic organizers, then they ought to assess how well students work together, take notes, and use graphic organizers. Authentic assessment reflects the content and values of students' daily activities in the classroom.

Second, *authentic assessment collects diverse evidence from meaningful events.* There should be authentic purposes to learning activities that are reflected in assessments of language and literacy used for authentic communication. For example, authentic assessment of writing may include evidence from students' writing letters, diaries, or critiques. Evidence about reading may be derived from booklogs, environmental print, or responses to literature. Evidence about language arts may come from oral retellings, plays, or debates. In all of these situations, teachers may choose to assess the processes as well as the products that students create. Furthermore, authentic assessment means that students may work together or alone and that some measures might reveal students' abilities to collaborate, teach, and share their knowledge. The functional purposes of communication in diverse contexts provide many kinds of evidence about the students' learning and motivation.

A third characteristic of *authentic assessment is that there is agreement in the local community about the* *indicators of success.* Teachers may collect various evidence about students' learning, but if principals, parents, or students regard the evidence as irrelevant or inappropriate, then it will be useless. Local policymakers must indicate, and parents confirm, the kinds of evidence that they regard as important for their evaluations of students, teachers, and schools. Moreover, teachers and students must play a role in deciding what counts as good evidence if they are to display motivational commitments to authentic assessment. Assessment is not authentic for teachers and students when it is imposed from external sources, when it undermines the judgments of teachers, or when it attenuates students' motivation and learning strategies.

Fourth, and perhaps most important, *authentic assessment promotes learning among all participants.* Teachers can use the results to revise their curriculum and instruction for individual students; parents can use the results to become better informed about their children's progress and to augment classroom goals at home; and students can use authentic assessment to gauge and chart their own progress. The results of authentic assessment can be communicated in quantitative comparisons that are graphed or displayed or they may be communicated in conferences. Work samples, journals, class projects, plays, recitals, checklists, report cards, notes, and videotapes are just some of the evidence that teachers may collect and use to communicate information about students' talents and weaknesses. Proponents of authentic assessment point out the rich information that can be captured in these kinds of evidence and the personal involvement of the participants that can be encouraged in these activities—aspects so often absent in traditional paper-and-pencil tests.

"What problems must be overcome before authentic assessment becomes routine in schools?" Unfortunately, there are many. First, educational policymakers must make a commitment to evaluate and reform assessment practices. Input from experts, teachers, parents, and students must be collected about the advantages and disadvantages of current practices. Authentic assessments should then be designed to address those strengths and weaknesses. Such reform should recognize at the outset that authentic assessment is primarily focused on charting developmental progress of individual students and gives less emphasis to comparisons among groups. Second, teachers need to become informed and empowered to gather and interpret evidence about students' learning, development, and motivation. Better preservice and inservice training about educational assessment is needed (see Hambleton, this issue). Third, parents and students need to be informed about the characteristics of authentic assessment and the purposes underlying reforms. They need to become active participants in the creation and evaluation of authentic assessment on a continuous basis. Fourth, educators, researchers, and publishers must design and try out various systems to help teachers collect and interpret evidence from students' portfolios, classroom performance, and work samples.

These problems may be resolved quite differently in different districts and schools, depending on the local values and concerns as well as the characteristics of the students, teachers, and parents. However, this is a strength of authentic assessment; it is authentic for unique contexts and people, not rigid or uniform. Assessment, like learning, becomes a powerful tool for self-improvement and motivation when it is owned and controlled by the participants, when it is valuable for accomplishing personal goals, and when it is embedded in our daily lives.

Authentic, Alternative Assessment: A Window on Learning and Learner Diversity

Helen Slaughter

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Lives on the Boundary is the personal account of Mike Rose who, as a high school student, suffered from the impersonal use of norm-referenced, standardized tests, which have been the traditional tools for assessing student achievement. He was placed in a low-ability level, vocational track because of a mixup in test results. Finally after two years, a biology teacher noticed the discrepancy between Rose's low placement and his high achievement and had him placed in a college preparatory course of study. This teacher's personal assessment of Rose's abilities changed Rose's life. Rose also tells of his own experiences as a teacher of adult, borderline students and how standardized, multiple-choice tests underestimated their abilities. The capabilities of these students became visible to Rose through their interactions with him. Many of them could "read and write well enough to get along," but as Rose said, "The sad thing is that we don't really have tests of such naturally occurring competence."[1]

The authentic assessment movement attempts to move assessment away from single and arbitrary measures of achievement, far removed from individual teachers and students, toward measures that (a) are flexible and precise in measuring the strengths and needs of individual learners, (b) represent valid measurement tasks and behaviors, (c) are conducted in settings that approach "naturalness" (sometimes called ecological validity), and (d) provide process descriptions and products that may be translated into interactive teaching strategies that are developmentally, socially, and culturally appropriate.

These alternative measures vary considerably: (a) direct tests, such as criterion-referenced tests designed to measure mastery of specific course content (see Tibbetts and Peterson, this issue); (b) situations that are deliberately nontestlike, such as conversations to assess oral language proficiency,[2] or actual performances, such as road tests taken to obtain a driver's license (see Brandt, this issue); or (c) less obtrusive measures such as classroom observations of students' performance and students' work samples, or portfolios (see Young, this issue).

The term *authentic* in this new movement refers to the genuine, the real, the useful and worthy. For instance, we could assess a student's ability to analyze grammatically a complex verbal utterance, such as is often done in traditional tests of English grammar. However, what is the importance of mastering this skill for participating in our society? How relevant is this skill to skills that are needed in everyday life, such as being able to speak or write well for a given audience? The term *alternative* in the authentic assessment movement refers to measures other than standardized, norm-referenced tests, which have been the main tools for assessing achievement in school. Both terms, *authentic* and *alternative*, are needed in any reform of today's educational assessment.

Table 1 summarizes some of the differences in theoretical framework between authentic, alternative assessment and standardized, multiple-choice testing. First, the two approaches differ in terms of what they consider a good, fair assessment. Authentic assessment wishes to maximize student performance in order to determine accurately the pattern of abilities, attitudes, background knowledge, and other factors that relate to achievement and learning. Therefore, every effort is made to have a natural, typical learning situation, to personalize and modify the situation as the examiner (often the teacher) sees necessary, and to gear the assessment to an appropriate level of difficulty so that the student will not get discouraged.[3] In traditional assessment, an effort is made to curtail and to standardize the interaction between the examiner and the student: often scripted directions, multiple-choice formats, and time limits are used. These features are adopted so that one student is not given an advantage over another.

This different view of what is fair and what is important permeates two other aspects of the assessment—the nature of the responses measured and the interpretation of the results. In order to eliminate unfairness through subjective scoring of student responses, responses to multiple-choice questions are often used in standardized achievement tests. In authentic assessment, tests are deemed fair precisely because of the subjective, student-constructed responses. These constructed responses—in writing, drawing, or talking—can be evaluated on the basis of how students interpret the questions, and the kind of informa-

Table 1

Differences in Perspective Between Authentic, Alternative Assessment and Traditional, Standardized Assessment

Authentic, Alternative Assessment	Standardized, Multiple-Choice Tests
Fairness, because	Fairness, because
personalized	uniform; sameness
natural	standardized (artificial)
rapport with examiner	cold; directions read
modifiable as needed	rigid, unchangeable
appropriate difficulty level	wide-range difficulty level
Responses	Responses
constructed	provided: select from options given
performed	checked off
student interacts	student passive
Interpretation	Interpretation
criterion-referenced	norm-referenced
developmental level	compares student to others
how student performs	student "standing" and attainment of objectives
student's strengths and needs	

tion they provide. The scoring of these constructed-responses requires more thoughtful, labor-intensive analysis than simply checking answers with an answer key as in standardized tests. Nevertheless, research on holistic scoring of writing samples has shown that a high degree of reliability can be obtained through training. Teachers should, therefore, be trained to score and interpret authentic, alternative assessments, and the consensus-building process involved in deciding what is a high-scoring response can feed back into their instruction.

The interpretative framework of authentic, alternative assessment and standardized, norm-referenced tests is also substantially different. The most useful examples of authentic, alternative assessment present the teacher with a descriptive picture or profile of each student that emphasizes particular learning strengths, background knowledge, developmental level, and instructional needs within the context of legitimate, holistic, academic learning tasks. Analysis of certain constructed-responses—for instance, the oral reading of real texts—provides insights into the strategies students use to perform the task. For the teacher who conducts the assessment and for the curriculum planners who share in this information, the assessment results may suggest strategies useful for teaching and for encouraging student learning and growth.

The results from multiple-choice, standardized tests serve a different purpose. They place a student or a class on a continuum of high to low in terms of how other students nationally performed on the same test. For students who fall markedly below the average range—those who are in the first or second stanine—the results provide little or no information about what the students can do in a given academic domain, what kind of reading or mathematics they can participate in, or in what aspects they are improving from year to year. Even for our average and above-average students, multiple-choice, norm-referenced tests provide only minimal information, since the tasks on these tests require only convergent and conformist thinking and do not assess the kind of higher-level thinking and problem-solving skills that need to be part of the curriculum for all students.

From the description of the framework guiding traditional assessment, the reasons for the push toward more authentic assessment become clear. Standardizing the interaction between examiner and student can lead to an artificial situation that often has a "chilling" effect upon student performance. The elimination of human judgment in interpreting test responses, deemed necessary to reduce bias and error, has resulted in the creation of tasks and test questions requiring multiple-choice answers or fill-in-the-blanks. Responses to such questions, however, do not reflect what students think, show how they solve problems, or indicate their wider knowledge of the subject matter.

The effort to reform assessment by taking a closer look at what individuals actually do in learning situations, on academically valid tasks in ecologically valid situations, will be time-consuming, labor-intensive, and expensive. It will require the assistance of experts in curriculum research and measurement as well as the expertise of teachers. If teachers are left out of the process, and the development of new measures is taken over by specialists, the valued connection between assessment and instruction will be lost. Moreover, a commitment to alternative assessment means a commitment to dealing with the messiness of individual and situational variation, to holding dialogues about controversial curriculum ideas, and to accepting less uniformity as a tradeoff for gaining more learner-relevant data.

We have a tendency, in education, to expect to find the one single approach that will serve all needs and all audiences or to find the one absolute answer to complex problems. No measurement approach will answer all our questions nor solve all our problems. The best alternative, authentic assessment approaches will acknowledge the need for multiple measures and various kinds of judgment in making decisions about curriculum and student learning. Nevertheless, the authentic, alternative assessment movement shows the increased reflectiveness among today's teachers and other educators on how to create optimal learning opportunities for their students.

Footnotes

[1] Rose, M. (1989). *Lives on the boundary: A moving account of the struggles and achievements of America's educational underclass.* New York: Viking Penguin, p. 216.

[2] Slaughter, H. (1988). A sociolinguistic paradigm for bilingual language proficiency assessment. In J. Fine (Ed.), *Second language discourse: A textbook of current research* (pp. 89-144). Norwood, NJ: Ablex.

[3] Slaughter, H. (in press). Alternative language assessment: Communicating naturally with students in assessment contexts. In D. Bloome, J. Solsken, & K. Holland (Eds.), *Alternative perspectives in assessing children's language and literacy.* Norwood, NJ: Ablex.

Strengths and Challenges of Authentic Evaluation and Assessment: A Personal Perspective

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William J. Tikunoff
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Great interest lately has centered on developing alternative approaches to evaluate educational programs. By default, the model for which we are developing alternative approaches is the traditional, paper-and-pencil test of academic achievement. What we require are strategies for measuring student performance that are more akin to the teaching and learning activities in which teachers and their students engage on a daily basis. Such strategies are deemed more *authentic* since they approximate typical classroom instructional expectations. By contrast, the behaviors expected of students when they take more traditional academic achievement tests are quite unlike those expected in the classroom.

While economical to administer to large numbers of students and relatively easy to apply as standards against which to measure students' performance, achievement tests have been criticized because (a) they are able to measure only a very small band of knowledge and skills students are expected to master in a given school year, (b) they do this in an activity structure (test taking) that is only one of many in a typical classroom, and (c) they assess only a limited range of performance responses from among those that schools typically are expected to teach their students.

Consider, for example, an assignment where students engage in sustained problem-solving behavior across several days and produce a piece of writing that has undergone several drafts and considerable revision. What skills and knowledge from this process can be measured *authentically* by a standardized achievement test? Isn't the act of producing such a piece of writing strong evidence of a student's ability to perform this high-level cognitive task? If so, how can this sort of performance be used as a more authentic measure of a student's achievement? Such questions form the basis for the argument advanced by advocates of alternative assessment procedures.

As it is currently used, *authenticity* applies primarily to student assessment, but it has implications for program evaluations as well. In both areas, the concept of authenticity brings strength to the study of education while at the same time posing challenges to those of us working in this field. The value of assessment methods that engage students in complex, integrated, challenging tasks, rather than ask them to provide one right answer to every question, seems obvious.[1] But, to move beyond simplistic assessments, we must be willing to make more explicit the performances students are expected to attain and be prepared to work with complex, diverse data bases. To study educational programs built upon authentic assessment approaches, we must pay more attention to the contexts in which teaching and learning occur, to the sorts of teaching and learning activities that occur in the classroom, and to the products thereof. The inclusion of evaluation stakeholders—teachers, administrators, program staff, and policymakers who are directly affected by evaluation outcomes—in identifying and interpreting key information sources is another indispensable ingredient.[2]

Although much of the dialogue regarding authentic assessment centers on the sorts of units or tests students will complete in lieu of the traditional achievement test, authentic assessment, in its ideal form, looks at student outcomes from a perspective that is wider than a single measurement activity. Knowledge of the schools and classrooms in which teachers and students work, of the educational program guidelines within which they operate, and of the ways in which the teachers and students interact to accomplish student learning is a corner stone of both authentic assessment of student performance and authentic evaluation of the educational programs that produce this performance. Such knowledge may be obtained from the stakeholders at each site through interviews and questionnaires and by sustained on-site involvement and observation of schools and classrooms.

Examples of students' daily work, completed at several points in a school year, serve as an equally important data source. Products completed as part of an authentic assessment unit that may be carried out by students in several classes at a particular grade level or in a particular subject matter area provide additional information. Teacher or observer ratings of students' participation in various types of learning activities, such as cooperative groups, large group discussions, and individual research tasks, offer insight into yet another aspect of student performance. Responses to interviews or questionnaires convey information about students' feelings and attitudes toward the acquisition and use of various types of skills and knowledge.

Using information from such authentic inquiry will be complex and challenging. The applicability of authentic assessment units in diverse classrooms must be tested and studied. Finding ways to compare what takes place in different settings and establishing a common mechanism to compare diverse student products will be difficult. Once scoring mechanisms appropriate for measuring student performance across diverse products are created, the cost in time and money to apply this procedure to large numbers of classes and students must be determined. Further, as Guba and Lincoln[3] noted, at each step, those responsible for the evaluation must insure that the data, interpretations, and outcomes are related to essential program elements, to data sources in the settings being studied, and to the methods used to obtain, analyze, and compress the information that is reported.

All things considered, for us, authentic evaluation has greater potential to provide the information and insights necessary to bring about improvement in education than efforts that remain distanced from the individuals and settings in which teaching and learning occur. Acquisition and use of information describing how educational programs work in their particular settings is important. Recognition that variability is an aspect of education to be taken into account rather than ignored is of significance.

Our own experience with interactive research and development on teaching (IR&DT) demonstrated the power of collaborative work with stakeholders and context-based information. In an attempt to (a) insure that questions asked in research on teaching were ones to which teachers wanted answers and (b) reduce the time between completion of research on teaching and application of the findings by teachers, we established, in the late 1970's, experimental teams to carry out research on teaching. Study of the interactive research teams, which included teachers, researchers, evaluators, and staff development personnel, showed that their research looked at difficult and complex questions about teaching and schooling as these events unfolded in actual classrooms and schools.

What is more, the participating teachers considered the inquiry processes in which they engaged to obtain their research data to be as important as the research findings; in fact, these same inquiry processes served as the model upon which they built training for other teachers. Other teachers who took part in our research found that the detailed descriptions of the study participants—schools, classrooms, teachers, and students—helped them apply the study findings to their classrooms.

With regard to the time lag between completion of the research and use of the findings, the typical 10- to 30-year lag was reduced to one or two years. In one large urban district, a majority of the elementary teachers, within three years, had participated in training activities based on the interactive team's research processes and findings.[4]

Since authentic evaluation incorporates many of the tenets and processes underlying interactive research and development, we embrace the principles on which it stands and anticipate that it will be similarly successful.

Footnotes

[1] Kirst, M. (1991). [Interview with Lorrie Shepard on assessment issues]. *Educational Researcher, 20*(3), 21-23.

[2] Guba, E. G. & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage Publications.

[3] Guba & Lincoln, *op. cit.*, see footnote 2.

[4] Tikunoff, W. J., Ward, B. A., & Griffin, G. A. (1979). *Interactive research and development on teaching: Final report* (Report IR&DT-79-11). San Francisco, CA: Far West Laboratory for Educational Research and Development. Also, Tikunoff, W. J. & Ward, B. A. (1983). Collaborative research on teaching. *The Elementary School Journal, 83*(4), 453-468. Also, Behnke, G., Laborvitz, E. M., Bennet, J., Chase, C., Day, J., Lazar, C., & Mittleholtz, D. (1981). Coping with classroom distractions. *The Elementary School Journal, 81*(3), 135-155.